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Original Contributions.

EMPYEMA OF THE MAXILLARY SINUS---DIAGNOSIS AND SURGICAL TREATMENT.

By W. H. G. Logan, D.D.S., Chicago. Read before the National Dental Association, at Milwaukee, Aug. 6-9, 1901.

Empyema of the maxillary sinus is the result of an inflammatory condition of the mucous membrane which lines this sinus. While the cause of this inflammation which results in suppuration will, as as a rule, be the result of an abscess forming near some one external

Fig. 1—Showing close relation of apex of lingual and buccal roots with floor of antrum, no bone intervening between lingual root and antrum.

surface of the antrum, the floor when in close relation to the apex of the root of any tooth is in danger of septic penetration, or the presence of an inflammation which may cause empyema. The writer does not believe that we have direct penetration of septic matter from the dental aveolar abscesses so often as has been claimed, yet that it does occur at times from this source cannot be denied, as it is proven by cut No. 1. Ulceration upon the mucous

membrane of the nasal fossa at times so disturbs the normal condition of the mucous membrane lining the antrum that suppuration occurs.

In the diagnosis of empyema of the maxillary sinus we find a sensation of fullness in the part; dull pain throughout the region bounded by the eye above, the teeth below, the ear posteriorly, and the nose anteriorly; a rise of temperature of about one degree for a few hours during each day, and frequently headaches which seem to be caused by neuralgia as the result of a diseased condition of the infraorbital nerve. To differentiate neuroma of the nerve

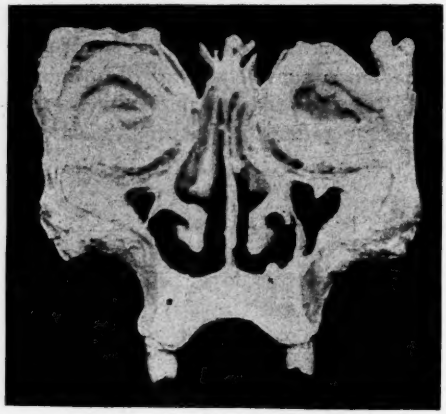

FIG. 2 (after Cryer)—Shows antrum high above supposed normal position.

from local irritation, press upon the branch at the point where it comes through the infraorbital foramen. If a pronounced diseased condition of the nerve exists, a paroxysm of pain of great intensity but of short duration will result, while if the cause of the neuralgia over the branch is local or remote and the normal condition of the nerves not disturbed, the result of the pressure will not cause pain of consequence. The passage of pus from the diseased antrum into the nasal passage through the natural opening, which is located in the middle meatus, can be noticed by the patients if you direct them to lie upon the diseased side for six to eight hours, and having the head inclined a little forward will cause the escaping secretions to pass anteriorly enough for proper examination.

Patients frequently complain of droppings from the nasal passage into the throat for the first few hours after rising. The presence of a number of the enumerated symptoms, an examination of the teeth present in that maxillary to discover if any contain putrescent pulps, and the illumination of the oral cavity with an electric light, which will give a darkened territory extending beyond the borders of the antrum if it be diseased, will produce a finished diagnosis.

In the surgical treatment of empyema of the maxillary sinus we find a wide range of opinion as to the proper point at which to make the opening through which we are to treat the infected area.

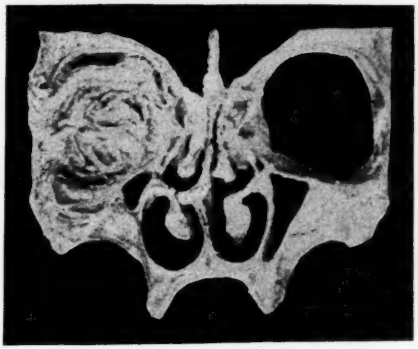

FIG. 3 (after Cryer)– Showing same as Fig. 2.

Many consider it wise to open through the cuspid fossa and there inject the solutions to irrigate the antrum. An opening here may at times give good results if the case is of short standing, but must not be looked upon with favor because this location is too high for good drainage. With the idea of gaining perfect drainage, many operators claim that the best practice is to extract either the superior second bicuspid or the first molar and drill or chisel through the intervening bone into the antrum, maintaining the opening with a gold or platinum tube, which extends a trifle above the floor and is held stationary by cementing a band, which has been previously soldered to the tube, on the tooth.

In entering opposition to this mode of operation the essayist is well aware that he will be criticised by the majority of oral and

general surgeons. His reason for believing that this form of surgical treatment should be usually abandoned are: 1. The frequent and needless loss of the tooth. 2. The uncertainty of gaining access to the lowest point of the floor. 3. The liability of missing the sinus entirely and entering the nasal fossa, as is proven by cuts No. 2 and 3. 4. The removal of the diseased hard and soft tissue is accomplished with more difficulty, and is made improbable in many cases if the opening is not greater in size than the space occupied by one tooth. 5. An ocular examination of the sinus cannot be made through the opening of ordinary size used for the reception of tube.

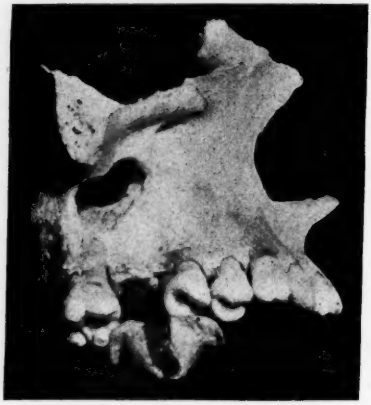

FIG. 4.

The ideal operation to control empyema of the maxillary sinus should embrace the following three points: 1. An opening large enough to allow of an ocular examination. 2. The position of this opening such that it will afford the best natural drainage and not demand extraction of any tooth. 3. The employment of some non-irritating method or device to maintain the original opening until a normal condition of the diseased part is obtained.

These three points can be embodied in one operation, if it be performed as follows: Make an incision through the soft tissue, extending from a point marked by the apex of the upper second bicuspid to a like location upon the upper second molar, and reflect the soft tissue upwards, exposing the bone. Now make an opening through the external wall of antrum with a bone drill in the

dental engine. The location of this opening should be just above the buccal roots of the first molar. With a silver probe you may now determine the form, size and location of the lowest point in the antrum. The next step is to enlarge the buccal opening through the bone so that you will be on a level with the floor. In the control of those cases where the roots extend close to the floor, make your buccal opening between the roots of the teeth, if they be in position and have live pulps, and extend it until a perfect ocular examination of the sinus is possible. With a large curet remove all diseased hard or soft tissue, syringe out the part and pack with borated gauze, which is left in position for twenty-four hours. To

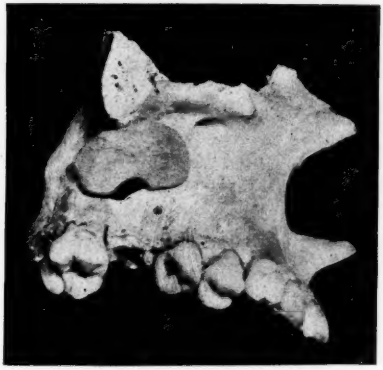

FIG. 5.

maintain the opening make a gutta-percha plug, as shown in cuts Nos. 4 and 5, with a flange on its superior surface so that cheek will hold it in position, and a groove on its anterior surface to allow for the escape of secretions. The parts should be irrigated daily until cured, employing carbolic acid and nitrate of silver solutions. Have the patient lean the head forward while irrigating the part, carry the fluid with a one or two ounce syringe, force the solution from the artificial opening through the natural opening into the nose, and continue the irrigation until the fluid escaping from the nostril upon the face is free from discoloration.

The writer does not believe it best to rely upon gauze to maintain the opening or to combat the disease, because it becomes putres-

cent so quickly, and its frequent removal disturbs the forming granulations.

To control those cases where the gutta-percha plug will not stay in place, I call your attention to cut No. 6, which shows a removable band about the crown of an adjacent tooth, having soldered upon it a bar which extends into the plug, holding it securely in position. Have the band just tight enough about the tooth that it will not come away of its own accord. The plug and its support can be easily removed when you wish to irrigate the part. As the diseased condition improves within the antrum reduce the size of

FIG. 6,

plug, but for fear of recurrence do not remove it entirely until a few days after the normal state has been reached. After a healthy condition has been maintained for a week you may dispense with the plug, but keep up the irrigating every two or three days as the case demands until the artificial opening closes. In the medical treatment of these cases of long standing the employment of various solutions and powders is indicated, for no one line of treatment will cure them all, but if you make the artificial opening very large and low enough for perfect drainage, keeping ever in mind that the opening must be maintained and the part irrigated with perfect regularity, success will crown your efforts.

Discussion. *Dr. G. V. I. Brown*, Milwaukee: I think the

etiology given by Dr. Logan is faultless, and his statement that we may infrequently have antral trouble from the roots of a diseased tooth is correct. He did not explain why this does not occur oftener, so I will attempt to. Even where the roots of the teeth come quite up to the floor of the antrum, as was shown in one of the slides, I believe abscesses at the ends of these teeth often occur without empyema, because the wall of lymph which surrounds the formation of pus in the alveolar wall prevents in a measure the passage of that pus in various directions. Frequently in such cases we find that the lining of the antrum and the tissue there is pushed up, and that upon the inside of the antral cavity the mucous membrane is often in a fairly healthy condition, until we insist on puncturing it and causing trouble. I have learned not to treat antrums until I am reasonably sure that an abscess or empyema or some condition which needs treatment exists. Often when we are treating an abscessed molar we find that the probe passes out through the end of the root and some little distance beyond, and we naturally conclude that the antrum requires treatment. I used to penetrate the antrum in such cases, and treat it in order to be sure, but I do not do so any more, because I have found that the mere fact of the probe going some distance beyond the end of the root does not indicate that it passes into the antrum. Usually everything will turn out well if we simply give the root a thorough treatment.

Now, when we must enter the antrum to treat it, and when the diagnostic symptoms are as stated in this paper, we might note one or two points. For instance, I think the essayist has been more definite than it is well to be in his description of what would be indicated by a tenderness above the areas immediately over the nerve. He speaks positively, as if distinguishing neuritis, for instance, from an irritation which would come from the antrum. So long as we have the neuritis it does not make much difference what the irritation is. We may press over or near the foramen where the pulp issues and find that it is tender and that we have there those symptoms of neuritis. As the paper reads, we should be misled into thinking that no antral case existed. We may have neuritis as the result of irritation in the antrum or elsewhere, and hyperesthesia may result from some nerve irritation and may or may not be in the antrum. There is one symptom which occasionally

causes a little difficulty in diagnosis on the part of the oculist when he is not familiar with antral affections—I refer to pressure on the eyeball, causing its protrusion.

There is often pus in the antrum, and the rhinologist is constantly dealing with antral affections, in which, as the result of influenza or any other disorder which causes an increased flow from the glands of the mucous membrane of the nose, the antrum has become engorged, infection has gotten into the cavity, as it readily might, and for the time being there is more or less pus in the antrum. Many such cases cure themselves, and a large number of others are cured by the rhinologist in his roundabout way of reaching the trouble through the nose. Consequently, simply because there is pus in the antrum is does not necessarily follow that we must undertake an extensive operation. If the history of the case shows that pus has been there only a short time, we may reasonably infer that its destructive influence has not been great, and that the tissue is affected only for the time being and will soon recover. We therefore need only to establish drainage, and oftentimes the antrum will get well without any other treatment. However, in case it does not get well no halfway measures will do, as we must then have free access to the antrum in order to treat it thoroughly. I am an advocate of a large opening, but only when it is necessary. In that case Dr. Logan has shown us the ideal opening.

Perhaps the manner of making it might have been elaborated a little, because, as the essayist showed, when you have reached the cavity proper of the maxillary sinus, the bur can be extended downward until you have reached the lowest portion of the antrum, and you can press backward and forward until the walls posteriorly and anteriorly are felt. Then you know that you have an opening which takes in the entire floor of the antrum and which is large enough to enable you to see the cavity. At the start I do not attempt an opening large enough that I can see all parts of the antrum clearly, but I make it in such shape that when I pack the cavity the wall will be bulged out for the time being, and after one or two rather tight packings the whole surface is clearly visible.

I have tried gutta-percha plugs, but found them more or less irritating. In their place I use a strip of gauze, and dip the outer end in chloro-percha. When the last piece is pressed in I hold my

finger upon it a moment and thus fairly well seal the antrum. After that I depend on disinfecting the mouth every half hour. Instead of trying to keep the secretions entirely out of the antrum I sterilize them, and thus the duration of treatment can be reduced fully one-half.

Dr. T. L. Gilmer, Chicago: Those of you who are teaching should impress upon your students the importance of knowing how to do this surgical work in the mouth, as there are so many practitioners who seem to be afraid to do anything except fill teeth or work in the laboratory. The subject under discussion is clearly within the dental field, and the young men should be well educated along such lines.

I believe the only place to enter the antral cavity is through the buccal wall of the antrum, as we need to reach the most dependent part of the cavity so that it may be properly drained. Another important thing is to get into the antrum in such a way that we may discover its condition. To drill a little gimlet-hole and inject medicaments into the antrum is not sufficient if the case is at all serious. The opening should be made large enough to admit the little finger The sense of touch reveals things in diagnosis which cannot be had from any sort of an instrument. Instead of a silver probe I would use a sharp-pointed steel instrument, as we cannot determine the nature of the contents of the antrum nearly so accurately with anything else. With a steel probe we can determine whether there is necrosed bone or tooth tissue or what not, provided the fingers have been sufficiently educated in the use of such instrument.

These openings into the antrum should never be made with a chisel, although the general surgeon is much inclined to its use. If you will take a piece of thin board and drive a chisel through it with a hammer you will find that the side opposite from where the chisel was used is all splintered. In fact, it is a fair indication of the condition of the inner side of the antrum wall after a chisel has been used.

When we open into the antrum and there is a condition present such as has been outlined in the paper, we need plenty of room for exploration, and if the lining membrane is badly diseased we may frequently wish to curet thoroughly, removing everything down to the bone. Then treat the case just as a surgeon would treat any other similar wound. Pack it thoroughly with iodoform gauze.

This may not in itself be antiseptic, but when iodoform comes in contact with the tissues something is evolved which inhibits the growth of microorganisms, and at the same time stimulates the parts to healthy granulation. I never use tubes, as they are usually either too long to secure perfect drainage or else they act as an irritant. I use the gauze so long as it is necessary to employ anything, and so do not see the necessity of a plug if the cavity is kept well packed, although there is no objection to the sort of plug suggested by the essayist. If the opening is made sufficiently high up, as it should be, the cheek folds over it and takes the place of the plug.

Dr. C. P. Pruyn, Chicago: One point has not been mentioned. In these cases we often find complete stenosis of the natural orifice, and the opening should then be made through the nose. I take a a trocar, a little smaller than an ordinary lead pencil, and by raising up the ala of the nose I have no difficulty in reaching back and making an opening. It is nearer the floor of the antrum than the usual opening, and on this account gives thorough drainage. Having made the opening sufficiently large, we must not only feel but also see the condition of affairs, because in many chronic cases little septa arise from the floor of the antrum, and until they are entirely removed with the curet complete drainage can not be established. Where it is necessary to make this opening through the nose in order to secure good drainage, I usually put in a rubber tube about the size of a pencil. At one end I turn it back upon itself, making a little bulge, and let that end remain just inside the nostril where it will not be exposed. The other end can be shoved back through the antrum and attached with ligatures to some of the teeth. In this way complete drainage is established, and the patient can wash out the antrum without coming to the office.

I never put iodoform in the mouth, as there is no excuse for using such stinking stuff when other remedies, aristol for instance, will do the work just as well. Iodoform is bad enough when used exteriorly, but is much worse when the patient has to smell and taste it constantly.

Dr. G. W. Cook, Chicago: I seriously object to the use of carbolic acid or nitrate of silver or iodoform as antiseptics in this disorder. A solution of carbolic acid sufficiently strong to anticepticize a cavity like the antrum will irritate the parts considerably. It depends entirely upon the microorganisms causing the inflammatory

process whether or not we secure any antiseptic results from iodoform, because it is valueless unless it comes in contact with certain microorganisms which break it up and liberate the iodin, in that way only bringing about a somewhat antiseptic condition. I have been experimenting with two or three agents and have obtained satisfactory results. One of them is chinosol. It is far more antiseptic than bichlorid of mercury, and if you saturate a piece of gauze in a ten per cent solution and pack the antrum, the results will be much pleasanter and the granulation will proceed quite as rapidly, as when iodoform or other irritating agents are employed. Chinosol is used by gynecologists, and is especially valuable because it does not possess the irritating qualities which the ordinary antiseptic solutions have. The other preparation is carbolic and sulphuric acids in equal parts. This displaces one atom of hydrogen in the phenol, producing pheno sulphonic acid. It is slightly irritating and we cannot pack wounds with it as we can with chinosol, but it has the property of stimulating granulation, and where there is a necrotic condition of the bone it apparently has a special affinity for the diseased structure. This acid was introduced into surgery some years ago in Russia and has been extensively used there.

Dr. W. C. Barrett, Buffalo: I can not see why antiseptics are recommended for use in the antrum, and I have not used any such for a long time. If I employ chlorid of zinc or iodin it is because of their stimulating and astringent properties, and if I pack the cavity with iodoform gauze it is to secure its specific effects. I would use a disinfectant, of course, but not an antiseptic, and I should not employ such a disinfectant as peroxid of hydrogen. Electrozone, which is common sea water that has had a current of electricity turned into it, changing the chlorids and bromids into chlorites and bromites and making them strongly disinfectant, answers all purposes. It is non-irritating and non-toxic and will do no harm in the eye, stomach or anywhere about the body. I have never seen an uncomplicated case of empyema of the antrum that needed anything more than thorough drainage and a good washing out two or three times. I say uncomplicated, for if there is an ulcerated surface or necrosis or polypi the case is wholly different.

Dr. L. E. Custer, Dayton, O.: Considerable attention has been given to the importance of securing drainage in the lower part of the antrum, yet we all know that no two antrums are alike, and

frequently there is quite a difference between the two in the same patient. I would emphasize the value of the X-Ray for obtaining a correct outline of the floor of the antrum, for then at a single stroke the proper place for drainage can be reached.

Dr. C. L. Hungerford, Kansas City, Mo.: This thing has simmered down to two points—drainage and the production of antisepsis. The treatment of all pus-secreting surfaces will resolve itself to these two points, provided there are no morbid growths. A pus-secreting surface will heal itself without further treatment so soon as drainage is established, but if pathological germs are present a disinfectant is necessary. Nothing today is equal to the various solutions of formalin. Used in sufficient strength they will destroy not only all the microorganisms present, but will prevent also the formation or growth of any others which may come in. I was glad to hear Dr. Pruyn emphasize the necessity of breaking up the septa, as there is almost always one on the floor of the atrum and frequently more than that, and while they are present perfect drainage cannot be established. When morbid growths or carious bone are present the case of course calls for other treatment, but in the majority of instances drainage from the most dependent point, using a tube if necessary, and employing formalin if pathological germs are present, will result in a cure.

Dr. Logan, closing discussion: A rubber tube should never be used, for the end closes up and does not permit of thorough drainage. Futhermore, it is dangerous, as I have seen three cases where a part of the tube has been left inside the antrum. Antral trouble cannot always be cured by simple drainage. If we have an infected area and pus the case must be treated generally for several weeks, if the part is really involved, or else there will be a recurrence of the trouble. I am not speaking of the simple inflammatory condition but of empyema. Infection in the antrum cannot be cured by drainage nearly so quickly as in some other parts of the body, and when pus pockets form about bone the condition is not so simple as some imagine. I saw a case where there was an opening at the bottom of the antrum and it was washed out every day, but there was a daily rise of temperature of from one to two degrees for a few hours, due to the absorption of pus. When infection is present we frequently have the formation of polypi, and they will not be destroyed by drainage any more than fibrous growths will

disappear by drilling an opening in the bottom of the antrum. Furthermore, in a serious case a proliferation of the fibrous tissue usually occurs, so if you do not correct it you are not on the safe side. Consequently a small opening should never be made when we operate, as a large one closes very quickly if desirable and makes it possible for us to make not only a thorough examination but a conscientious operation. I always use a steel probe to discover the true condition of the bone, but to learn the form of the antrum a bent silver probe is preferable.

PREVENTIVE DENTISTRY.

By Garrett Newkirk, D.D.S., Los Angeles, Cal. Read Before the Illinois State Dental Society, at Rockford, May 14–17, 1901.

There is a sense no doubt in which all dentistry may be called preventive. Ours is a remarkably conservative profession, we are ever trying to save something, to prepare organs that are in some degree wrecks, to prevent loss, destruction and pain. We destroy to an extent to prevent further destruction, we inflict pain to prevent greater pain, we cause loss of part of an organ to prevent total loss of the organ itself. In the minds of the committee who suggested this subject, however, there was no doubt a different thought, for by the term "preventive dentistry" they meant quite the same as if speaking of prophylactic medicine or hygienic measures for the prevention of disease.

Primarily, the practice of dentistry seems to exist for the repair of damages done to the teeth by decay or accident, or to replace those lost, just as the practice of medicine and surgery has been evoked by sickness or injuries of mankind. But in time experience and a broader sense of responsibility to humanity has developed the desire and effort of medical men to prevent disease and avoid injuries. Along this line particularly is dentistry akin to medicine and surgery, for here at least they are on common ground and so closely grown together as to be inseparable.

Every advance of the medical profession in the department of hygiene and sanitation, by which better conditions of health are insured, especially for those who live in cities; by which children are given a better start in the race of life, will be of advantage in the special field of preventive dentistry. It would add greatly to the usefulness of dentistry if its practitioners were more generally

interested and informed upon hygienic matters and in closer relationship with their medical confreres. Every dentist should be in the broader sense a hygienist, and in his narrower field so thorough as to make him the welcome consultant and advisor of the physician.

The domain of first importance in preventive dentistry is surely that which relates to young people. The special care of children's teeth should form a very essential part of the education of every dental student. As a rule our practice should be a family one, and the interest of the younger members should not be lost sight of. Every dental office should be an educational center from which knowledge would be diffused to heads of families and to the children themselves, with reference to all that pertains to the care of the teeth, and especially those measures which relate to prevention rather than cure. There are certain facts and reasons so plain and forceful that they are bound to be accepted and frequently acted upon when rightly presented to parents and guardians. Not always, however, for who is there among us that is always thoughtful and never heedless? All the fruit of our planting will not reach perfection, but there will be enough for great encouragement.

The first thing we should realize and should impress upon the parents is that the deciduous teeth bear very important anatomical and hygienic relations to their successors. They should therefore be closely watched and receive early and regular attention. Parents should be taught that decay of them often induces decay of adjoining or succeeding permanent teeth; that the premature loss or in some cases too long retention is the principal cause of irregularities. They should be taught furthermore that the "first" teeth were given the child for use and should be kept in usable condition —that if such teeth are tender and sore the child avoids using them, therefore fails to masticate his food and so forms the bolting habit, which is fruitful of dyspepsia in young or old and productive of bowel disorders in the young.

To discover cavities while small in these teeth, and to keep them filled until they should give way to their successors, is distinctly in the line of hygienic and preventive dentistry. I would call particular attention in this connection to the second deciduous molar, where it stands in contact with the first permanent molar for several years. Here is an especially dangerous point, as every observing practitioner well knows. Another direct need for these operations

is that they save the child pain, suffering, reflex irritation, and often loss of sleep. These reasons presented for the care of their children's dentures can hardly fail of effect upon sensible people. It may go without saying that professional care should include specific directions for daily attention to cleanliness at home, and I may add that the art of managing children is a very necessary adjunct to one's education.

The first permanent molar next comes in for consideration. The longer I am in practice the more do I realize the importance of this abused member. I have seen within a week a case where by six months' neglect the pulp and nearly half the crown of a lower first molar were lost in the mouth of a boy 11 years old. Another where by the early extraction of the two lower first molars the third molars have erupted at an angle of about 25 degrees, the second molars have decayed badly next to them, and the whole occlusion of the mouth is unsatisfactory. If the habit of attention to the deciduous teeth is formed early, the first permanent molars are not likely to be overlooked or neglected.

The idea of prevention is one that should be ever present with us. I believe there has never been a time when this truth was so generally recognized by the profession as now. Probably no expression of recent years has had more effect on the minds of those who read and reflect than this of Dr. Black's referring to the preparation of cavities—"Extension for Prevention." The matter of prevention is one that enters into the problems of every operator, and most of his medication. It comes not as a general proposition merely, but as a practical question in each case. On every page presented for our reading is this interrogation—How may we prevent? And unless we continually look ahead and take into account the conditions of the future our work will have but little value.

There is one great truth lying at the base of these questions that I wish were written larger in the minds of dentists, and more generally presented for the consideration of patients. It is this—A clean surface never decays. We know that certain surfaces of the teeth are practically immune in every mouth, and that if all the surfaces of any tooth could be kept as clean as some are it would not be touched by decay. We also know, alas, that this is impossible of perfect accomplishment, but an ideal is presented towards which we can struggle. I have always liked the spirit of an old

dentist in one of the smaller towns of Illinois. I asked him what sort of a practitioner Dr. —— was. He hesitated a little and then replied, "Well, he's this kind of a man. He says of a piece of work, 'O, that'll do, that's good enough.'" Then my old friend added with great emphasis, "There isn't anything good enough in dentistry. I never did a piece of work in my life that was perfectly satisfactory to me."

If clean surfaces are essential to prevention, what bearing does this have on operative dentistry? Is there anything more important to begin with than cleaning—the removal by instruments of all foreign substances from the surfaces of the teeth? Following our line of thought we say that it is never done perfectly in any case. Did you ever conclude the operation or series of sittings when you were absolutely sure that not a scale of deposit, not a stain, nor any foreign substances had been left? From long experience and observation I am forced to the conclusion that in this matter the great majority of dentists are sadly at fault. It is indeed exceptional when a patient comes to me from whose teeth the foreign substances have been thoroughly removed. But recently I saw a gentleman who had been under the care of dentists who ranked with the best. He had excellent fillings, crowns and bridges, yet he told me that never in all his experience were his teeth thoroughly cleaned. I had to believe this statement, for there were hard scales of black deposit about the necks of all lower teeth and of several above. One or two of the inferior incisors were in danger of being lost as a consequence. The gums were inflamed and there was slight pyorrhea. Thorough scaling, one application of hydrogen dioxid, and a mouth-wash for six days effected a cure.

Probably we would not be justified in the statement that all cases of pyorrhea could be prevented by rigid attention to cleanliness on the part of either dentist or patient, but undoubtedly many could be forestalled or cured in an early stage, for just as extensive decay is prevented by the filling of small cavities, so in the beginning of pyorrhea it is generally curable.

In this connection it is proper to mention another important matter that is as a rule neglected in the field of preventive operative dentistry, namely, the correction of malocclusions, especially in those cases where the opposing teeth are not firm. We often see this condition in relation to the incisors, with or without pyorrhea,

and not infrequently with molars having long cusps. It is useless to give treatment in such cases without cutting down the incisal edges or the cusps, as the case may be, until the occluding teeth may be brought together without producing lateral pressure.

Not long since a physician was referred to me by a dentist, with the hope that I might be able to save certain loose lower incisors. They were indeed "shaky." Their bony supports were more than half gone and there were several pus pockets about the roots. The two teeth most affected were much extruded, in fact, had been originally too high. Every time the teeth were closed these were struck first and at an angle which made it impossible for them to stay firm; as the patient said, "they seemed to be always in the way." With a carborundum wheel I brought them down to or slightly below the level of the adjoining teeth, and when he had closed his jaws and noted the difference in the occlusion he remarked, "Well, that is a relief, why didn't some one think of that before?" I ligated the teeth for three weeks, and at the present time the gums appear to have fully healed, granulations have filled the pockets, and the teeth that were in the worst condition are reasonably firm. Not one is occasioning discomfort, and I feel sure that with a little attention, bimonthly perhaps, the doctor's teeth will stand by him for a long time. Now, the most important part of the treatment was correcting the occlusion. Had this been done years ago, by the first dentist who saw the case, loosening of the teeth and years of discomfort and positive suffering would have been prevented.

While speaking of occlusion we may note another point closely related—extension for the prevention of fracture. Often a patient comes for the repair of a tooth from which a large piece "has split off," and we have all seen cases where a tooth was symmetrically split in two. In nearly every instance these accidents could have been prevented by an extension of the cutting when the tooth was filled. Weak walls presenting an inclined plane to the occluding surface of an opposing tooth are too often left. Preventive dentistry cuts down the wall and covers it in with gold or amalgam.

So far I have said nothing about preventive dentistry from the standpoint of medicine. I would state at once that with rare exceptions it is not the province of the average dentist to administer drugs. In the first place, it is doubtful if the administration

of a drug by the stomach can have any specific effect whatever on the teeth nor on the other tissues of the mouth, except indirectly as related to the general health. While the dentist might in some cases make suggestions to the physician, it is undoubtedly the province of the physician to prescribe in the field of general medicine. For the graduate of a dental college to undertake the administration of constitutional treatment for local conditions in the mouth, without the knowledge and concurrence of the patient's physician, is unwarrantable and possibly dangerous; and the danger is not to the patient alone but to the dentist himself. This leads me to the statement that preventive dentistry requires a better understanding and a closer relationship between dentists and physicians. The medical student should receive more definite instruction as to the mouth and teeth than he now does, and the physician should know more about the possibilities of modern dentistry than he does usually. He should do a greater share in the work of prevention than at present, for he has opportunities possessed by none other. Conditions are daily coming under his observation which he ought to recognize and refer promptly to the dentist for preventive treatment. All examinations of the tongue, palate and tonsils should include at least a recognition of the general condition of the teeth, and the advice if necessary that they should be attended to. We often see a bad condition of the teeth following sickness. This might be avoided in great measure if doctors were particular to advise parents and nurses with regard to the proper care of the mouth during those periods. On the other hand, the dentist should keep in close touch with medicine and its practitioners. It is not a usual thing for him to attend meetings of medical societies, but it ought to be. It would be highly educational to him and would have an influence for good all around. Preventive dentistry would be the gainer by this better acquaintance.

There is this to say with regard to local medication for the prevention of decay. We know that the teeth suffer not so much from inherent weakness as from their unwholesome environment—they are destroyed by agents from without. Whatever improves the condition of the mouth assists by so much in protecting the teeth. Preventive dentistry therefore includes all the good advice which the dentist may give his patients for the care of the mouth, the prescription of proper powders and washes, impressing upon young

people especially the fact that teeth were made not merely for ornament but for use; that use of the teeth has value, not alone in the preparation of food for digestion, but for the maintenance of their own healthy condition; that as a rule the most used teeth are cleanest and least liable to decay; that for this use of the teeth the coarser cereal foods, hard bread, raw fruits, and not too tender meats are to be commended. The indignant remark of the Irishman on being presented with a dish of hash that, "The man that chawed that can ate it," had a good physiological basis. Each individual should masticate his own food and that thoroughly. We do not enforce this idea nearly so often nor so strongly as we should.

The practice of removing superficial caries, especially upon the buccal surfaces of the teeth, and medication for the arrest of decay, has a value which is beyond question. It ought to be done oftener and better than it is. To make the operation effective the part must be kept well dried. The rubber-dam should be used when possible, otherwise napkins or pads, supplemented by the saliva ejector. The affected surface should be first treated with alcohol and warm air so that the agent may penetrate the part. Tincture of iodin is a good first application, to be followed by a coating of silver nitrate. A film of the saturated solution should be applied with a stick or firm pellet of cotton, this dried and the operation repeated till several layers of the agent are laid down—sufficient to form a protective surface. On front surfaces, where such a discoloration is not admissible, there is nothing better than wood creosote, alone or in connection with oil of cloves. Dr. Hart of San Francisco was an advocate of formalin for this purpose, and he claimed excellent results.

I have not fully made up my mind with regard to the possibility or probable usefulness of those plans recently outlined for the general examination of the teeth of children in schools. It is claimed that this has been done with great advantage in Europe, and that it may be in the United States. If so, it would certainly be in the line of preventive dentistry. I am sure of one thing at least, that some good would be done by the education of school-teachers, who could in turn educate their pupils upon dental matters.

Discussion. *Dr. C. N. Johnson*, Chicago: There are just two points which I wish to discuss briefly—one practical and the other speculative. In those mouths where the tendency to decay is great,

and where the permanent molars, especially the lower first ones, are erupting, we frequently find decay in the fissures almost before the tooth has fully presented, and these lower molars often decay before they have reached occlusion with the upper ones. In those cases, where from the conditions present I fear that decay will begin at that point, I dry the entire occlusal surface with alcohol and then cover with oxyphosphate of zinc, thus protecting the surface during the progress of the tooth to full occlusion. When it touches the upper teeth the friction of mastication will of course keep the surface practically clean, but until then my plan often prevents decay. The second point is in regard to the work of Dr. Michaels, as shown in his paper at Paris. That is the preventive dentistry of the future, as it begins at the very foundation of this question. It is simply a matter of bringing about conditions of the mouth which are unfavorable to the growth and activity of the microorganisms of decay. Just so soon as we can analyze and prevent that peculiar condition of the fluids of the mouth which tends to the formation and development of these microbic placques, and when we learn therefrom why one mouth is susceptible to caries and another practically immune, then we may take up preventive dentistry on a scientific basis and learn what particular medication should be employed to induce immunity of the mouth. This is the most important question before the dental profession to-day and should be given our earnest thought and study.

PRESIDENT'S ADDRESS.

By G. V. Black, D.D.S., Chicago. Read Before the National Dental Association, at Milwaukee, Aug. 6-9, 1901.

The constitution of this body makes it obligatory upon its president to present an address at the opening of the annual session, leaving it to him to select such subject as he may suppose will be of interest to its members. For this occasion I have chosen to speak of the National Dental Association, of its form of work and particularly of its constitution, which it seems to me now needs a thorough revision and much amendment to adapt it to the great and steady growth of the organization.

The preliminary meeting for the organization of a national dental association that should be a delegate body representing the organized dental profession in America convened first at Niagara Falls on

August 3, 1859. At that time there were only eight dental societies and two dental colleges, represented by twenty-six delegates. A complete organization was not effected until the next year, when the delegates of the various local dental associations and colleges met according to adjournment in the Smithsonian Institute at Washington on July 31, 1860 At this meeting there were ten dental societies and one dental college, represented by twenty-three delegates. Only twenty-one of these, representing ten associations, seem to have signed the original constitution, and the name was changed to "American Dental Association."

This constitution was a very long document for so small an organization, but the result fully justified its length and the by-laws adopted. Individuals had been appointed at the preliminary meeting to present essays and papers, and they went at the literary and scientific work with a zeal and an industry that promised much for the future. The results have fully borne out the promise of this beginning, for although the young organization was beset with extraordinary difficulties, owing to the breaking out of the Civil War during the next year, 1861, which prevented a meeting, the delegates were found together again on July 30, 1862, at Cleveland; and went at their work with the vigorous sternness so suggestive of the troubled times. From that time on no meeting has failed to be held because of lack of interest on the part of the profession. The representation grew from tens to hundreds. The societies became so numerous that to some it seemed necessary to exclude all delegates except those from state or territorial organizations. This was not so much on account of numbers as because in many of the states there were numerous dental societies and many individuals belonged to several of them, so certain regions came to be represented in duplicate. At present, however, all local organizations are admitted to representation.

The work done by this body for the benefit of the dental profession, and through it for the benefit of the people of our commonwealth, has been great and of the most substantial character. The amount of stimulation it has given to thought and to research work for the fuller development of truth cannot be fully told; yet this is perhaps small when compared with the ambition it has given to individual men to become better practitioners and the spread of this impulse to the general membership of the profession. It is

not so much that we have wiser men in dentistry now than fifty years ago as it is that we have many more wise men.

As an indication of the growth of this association I give some figures which will represent it and show the direction it is taking. The manner of organization provided for three classes of membership—First, delegate members from dental societies or other organizations of dentists; Second, permanent members, those who have represented a dental organization and who signify their desire to become permanent members; Third, honorary members, citizens of foreign countries who may be elected to membership. Under such arrangement the association elected none but its honorary members, and at its first meeting and for some years afterwards its membership was principally composed of delegates; but now the number of permanent members has exceeded that of delegates. In 1860 there were ten organizations represented by twenty-one delegates. In 1868, eighty permanent members and forty-eight organizations represented by delegates. In 1877, eighty-eight permanent members and twenty-three organizations represented by delegates. In 1888, one hundred and eighty permanent members and twenty-three organizations represented by delegates. In 1895, two hundred and fifty-five permanent members and fifty-three organizations represented by delegates. Then the union of the American and the Southern Dental Associations was effected, and the name was changed to "National Dental Association," and later all except state organizations were denied representation, with the result that in 1899 there were three hundred and sixty-nine permanent members and only twenty organizations represented by delegates. From this it would seem that the organization is rapidly losing its representative character and lapsing into a fixed organization controlled by its permanent membership exclusively. In comparing the list of members with the organizations represented, I find we have members from states that have no official representation, and this body has no official knowledge that there is now any society organization in those states.

I have been making a broad study of the organization and workings of this association, and it seems to me that some evils have crept in which need eradication, of which this is perhaps one of the least. On this point of representation it seems to me necessary that some changes be made which will assist in maintaining the original

design of a representative organization for the whole profession in America. As the matter now stands the state and local societies are losing interest in the national organization. They do not think of making representatives or delegates even of their members who may be known to be intending to attend the national meetings, or recognize that they have any official connection with it whatever, which is not as it should be. This body should attract the attention of and interest the whole organized profession of the country. For this reason I have introduced, as an amendment to the constitution, a section in the article on membership as follows: "When any state dental association or organized state society fails of representation by delegates officially accredited and directed to the National Dental Association, for two years the names of permanent members residing in that state shall be erased from membership. This shall not be construed to prohibit permanent members from accepting credentials as delegates." If this does nothing more it will direct the attention of members of this organization and the profession generally to our intention to retain its representative character and will serve to bring the fact of the existence of this body before some dental associations that seem to have forgotten it.

Another matter that seems to me important in engaging the state and local societies in this organization is the interest we may take in them. Originally the intention seems to have been that the corresponding secretary should compile a report for this body, showing in a brief way the work which had been done by these societies, so that we might know something of what they were doing. This was not well shown in the constitutional clause, and has been dropped. I have so amended this clause as to show its original intention, and to require of this officer a condensed report of the meetings and work of these bodies, which with judicious handling can be made interesting and very instructive.

The idea has also come to me that we might arrange to have members of the state societies receive copies of our transactions by a very simple arrangement whereby certain dues to cover the necessary expense should be imposed and collected for that purpose by the state organizations. This would give a much greater circulation and knowledge of our proceedings, increase our usefulness, and interest many more men. I have not embodied this thought

in the constitution which I shall offer, but it would be a very simple matter to arrange in the future.

In the earlier years of this association the literary and scientific work seems to have been very satisfactory. The membership was smaller and not so many men wished to read papers or to discuss them. The interests of the members were not so varied as now, yet as I look back over the proceedings of past years there seems to have been no lack of interesting material. In such a review we naturally find that much which has been written and been said in discussion is what I should call "literature of the day." The papers that we can now designate as milestones marking the onward progress of professional thought are not especially numerous. In the natural order of things this could not well be otherwise. A new discovery or thought that serves as a decisive stepping-stone for advance is usually told in a few words or within the compass of a comparatively short paper. But the diffusion to the general profession of a full understanding of its scientific import and its variety of application to practice requires many papers and discussions which to some of us may seem trivial, or repetitions, or in some instances mere words, and yet they may and do serve to round out and complete the conveyance of the fund of information. These are therefore among the necessities of progress. Many papers adapted only to the day and occasion for which they were prepared interest but the few and have little or no value in permanent literature, yet they are really excellent and necessary productions.

While it would be perhaps wrong to say that there is or could be any conflict between the journals and association work, yet it seems true that the greater facility for reaching the professson through the dental journals now and formerly has induced many men to offer their thought through that channel rather than through this association. When offered to this body papers are read and hurriedly passed, often their publication is much delayed and they are forgotten, while if published in the better journals they go at once to those who are sufficiently interested to read them. It may be true that this profession is not yet a reading one, for not a large proportion of our men read dental literature widely and regularly, yet those who are interested in certain directions read articles which appear upon those subjects and through them there is diffusion of the information to a greater number. It is a great fault with

our association work that so much matter is presented and allowed to drop without discussion, and that publication is delayed until it has passed from the memory of those who may have been temporarily interested. A number of times within my memory the delay in the publication of the transactions of this association has been exceedingly vexatious. This has been especially true for some years past, and now when we come to our annual session this year the papers and proceedings of the 1900 meeting have not yet appeared in printed form. Is it any wonder that careful, industrious, thinking men, those whom we most wish to hear in this body, turn to the journals for the presentation of their thought? I recommend that those officers who have in charge the making of the contract for this work shall see to it that such exasperating delays do not occur in the future.

Dentists are more and more inclined to specialize. When we meet together in a body like this some are interested in this direction and some in that. A may be annoyed at having to listen to a long discussion of B's paper, which happens to be upon a subject that does not interest him, and possibly two-thirds of the audience would gladly vote to close the discussion, yet B's paper is just what one-third of the members wish to hear discussed. This difficulty increases as organizations of this general character grow older and as the membership becomes larger, as ours is rapidly doing. Also, with the growth of the membership, with the increase in the ranks of able men, and with a riper general intelligence of the profession, there should be an addition to the number of those who are able to present instructive and valuable thought to this body, both in the form of papers and in the discussions of same.

For all these reasons it seems to be desirable that for its literary and scientific work this association shall be divided into sections in such a way that they will be able to do their work separately and at the same time. When this body had but twenty-three members the whole time of the four days allotted for its annual sessions was very profitably occupied. Now after more than forty years of growth, leading to greatly increased diversity of thought and personal interest, with a twenty-fold increase in membership, no more time has been given in which to accomplish our task. It is true that there has been an attempt to divide the work into sections, but as at present carried out this proves to relate to the prep-

aration of same for presentation rather than to the doing of the work itself. It is still all appointed to come before the general gathering for its accomplishment. For this reason our program for a number of years past has been inordinately crowded, in fact, to such an extent that no part of the labor could be done deliberately and well: and the discussions especially have been in a great measure crowded out. This has led to what has seemed to be a very necessary censorship of the papers offered, which, however wisely performed, has given rise to a feeling of dissatisfaction in portions of the membership which is undesirable to say the least.

Again, on account of the diffusion of responsibility in the making of the program for our meetings, of which I shall speak more in detail later, men have been invited to read papers before this body, and have prepared same in good faith, yet when they have come here, there has been no time for them to be heard, so some have naturally felt that they were mistreated. While I am sure that neither this body nor any of its official representatives have had any other than the kindest feeling toward the members who have thus been disappointed, the conditions under which we have labored have rendered such incidents very liable to occur. These criticisms are not made in any spirit of fault-finding, but to remedy existing imperfections in our plan of operation.

A full knowledge of these matters has induced me to make a careful and somewhat prolonged study of the workings of this association and the structure of the constitution which directs it. I have compared it closely with other similar organizations and their manner of operation, especially the American Medical Association, with which I have some acquaintance. I have compared the manner of doing work more particularly than the structure of the constitution under which the work is done, for sometimes the precedents of an organization will be found wiser than its organic law. In what I shall offer I have considered with care the probable effect of changes upon the conditions now existing and likely to exist in the near future, rather than the specific constitution of other bodies. During this study I have fully come to the conclusion that however perfect in its adaptation to our needs it may once have been, our constitution, with the great growth of the organization, now fails to meet its needs and should be subjected to rigorous revision. Still, much of it is good as it stands and should be preserved with but slight

changes; especially that relating to membership and to the manner of conducting the business affairs.

I am decidedly of the opinion that the strictly business side of such an organization as this should be lodged in the hands of a few, whose acts would be under the censorship of the main body without debate, and thus prevent the discussion of same consuming valuable time which should be devoted to our professional, literary and scientific work. It was with this idea that it was organized; that its existence is continued, and that members lay aside their professional duties at home and journey to its meetings, many of them at great expense in time and money. It is to facilitate this literary and scientific work that the business side should be run, not to obstruct it. However, the business side of such an organization is essential, and for the highest success of the literary work it is necessary that the business be well and expeditiously done.

After a careful study of this point I am of the opinion that the plans developed for conducting this part of the labors of this association are wise and good, and the amendments I shall propose in in this line will be only to strengthen it, and to more specifically define the duties of each officer, in order that each new incoming official will more readily comprehend his duties, and thus prevent in the future if possible the conflicts of opinion which have occurred in the past. I would certainly recommend to incoming officers a careful study of the constitution under which they labor, as a preparation for the safe and accurate performance of their duties; and to that end there should always be lodged in the office of the recording secretary a sufficient number of printed copies, so that they can have this opportunity. I had great difficulty this year in obtaining a correct one, and finally was compelled to borrow the secretary's official copy.

In the amendments I shall offer the literary and scientific side will be more specifically divided from the business side than under the constitution as interpreted in past usage. I propose to abolish the the plan of sections as they now exist and to substitute another which will concentrate the work in three sections, each of which shall have its own meetings for the reading and discussion of papers and reports. These three meetings will be going on at the same time in separate rooms adapted to their needs. Each section will have its own program, its own chairman and secretary to pre-

side over its meetings and to report its literary and scientific work. These shall be elected by the general body in the same manner as the president. Each chairman I would have retain office as past chairman for two years after having presided for one session, and serve with the chairman as a member of the program committee for that section. The principal part of the formation of the program to be given to the senior past chairman in each section, so that he might have three years' study of the needs of his section as a preparation for this important task.

This will give a program committee of three for each section, one of whom will reside in each division of the country, with the president as the central officer, combining the whole into one program committee. This organization shall be responsible for the preparation and arrangement of the program for the annual sessions, subject only to the judgment of the executive council, to whom it shall report at its first meeting during the annual gathering for approval.

I have been very careful in the formation of this program committee, and have so placed its members that those having the principal responsibility for the making up of the program for the sections shall have been in official position in relation to the program for the third year when the principal responsibility shall be assumed, and thus will have had sufficient opportunity for the necessary study of the needs of the association. I am of the opinion that each program should be made up upon a well laid scheme of subjects, with a wise choice of men for their presentation, and it should in the main present a regular sequence of thought in the progress of the session, while permitting of sufficient variety. The value of our meetings depends chiefly upon the orderly formation of the program, and heretofore it has been impossible to obtain same because there has been too great a diffusion of the program-forming power with a total absence of unifying power expressed in our organic law.

The censorship that has been exercised over the papers presented to this body, and the influence it has exercised I have studied with much care. In the past it has given rise to some irritation, perhaps more than it would if members presenting papers understood better its meaning and general object. I will not pretend to say whether or not the function has always been wisely administered. In correspondence and private conversation with members I have found

much objection to it, yet after studying all of its features, with a fairly good general knowledge of the material heretofore presented, and liable to be presented in the future, I believe it is best to continue it in a somewhat modified form, hoping that a wiser exercise of the program-forming power will do away with much of the necessity that has existed heretofore. I propose that papers offered shall go to the program committee for their judgment only when so ordered by the executive council, two of the committee being members of the council, as they will be better able to explain to that body the conditions and necessities under which papers are offered and the nature of the matter contained. This will lodge with them the liberty of examination and censorship of any papers they may see fit to receive, but does not impose the task of the examination of all essays before they are read, as has grown to be the custom in recent years. Another feature which will tend to reduce the friction is, as has been stated, that the formation of the program will be more distinctly lodged in the hands of a few persons elected directly by the association, insuring greater care in choosing the topics to be discussed and the persons to present papers than has been the habit in the past. Indeed, when I came to study the present constitution with a view to its administration I found this function lodged somewhat indiscriminately with a dozen officers of sections and as many more standing committees, with no one especially designated to unify the scheme of the program for the season; and inquiry as to precedents for the plan of this work revealed much difference of opinion and practice. Actually, it was difficult to find out who, if anyone, was directly answerable for this work in the past. The amendment mentioned will fix this responsibility definitely.

After a somewhat careful review of the work done in years past I think the scheme of standing committees, to report on literary and scientific subjects as it now exists should be abolished, and that hereafter when this association wishes a subject examined and a report made, which seems not likely to be supplied by some member in the form of a paper, a special committee can be appointed to do that work. Generally, however, the suggestion, in the form of a request directed to the program committee by a number of members, that the examination of a certain subject is wanted, will be sufficient to bring forward a paper by some one skilled in that particular direction.

I find that some dissatisfaction has been expressed at the custom which seems to have grown up in the association of the election of officers of sections and the continuation of the personnel of certain committees year after year. This has been without any disposition to reflect upon the persons holding those places, but rather with the idea that better results would be obtained by passing them oftener from one to another. After looking this over carefully I have provided amendments which will cause all of these to be elected by the general session, and in such form that nearly all will rotate annually in the divisions of the country as is now provided for the president. There are certain officers in this body, however, who should be changed as infrequently as is consistent with good service. These are the several secretaries and the treasurer. Efficient men in these positions should be as nearly permanent fixtures as the willingness of the persons to serve will allow. This has been an especially commendable custom of this organization, and I have made careful provision for its continuance, yet in such form that new men may be chosen any year.

I propose that the meetings of this body be divided into annual sessions, general sessions, and meetings of sections. The annual session is constituted of the several meetings of the year. The general sessions are the convenings of the whole body for referring matters to and receiving reports from the executive council and acting upon them without debate, as is the habit of the past; performing the opening functions; hearing such reports or addresses as may be set for the purpose, and the election of officers. The first general session should be held at 10 a. m. on the first day and be adjourned at 1 p. m., by limitation of time if not adjourned sooner. On the other three days the general session should convene at 12 noon and stand adjourned at 1:30 by limitation of time if not sooner adjourned; but these should be so managed as to be adjourned at 1 p. m. as the rule—giving twenty minutes in which to refer business propositions and receive and ratify or disapprove the acts of the council without debate, and forty minutes for reports or an address, which is sufficient time. Then each section should meet separately in the afternoon and evening of the first day and in the morning, afternoon and evening of each succeeding day, presided over by its own officers, for the reading and discussion of the essays and papers of its own program or such clinics as may be determined upon. The program for the

next twenty-four hours for each section should be announced in the general session each day, so that all members would know what was taking place.

This plan of operation would enable the association to accomplish fully three times the amount of work it is now doing, and I am sure same would be better done. I know that some among us would wish to hear every paper and all of the discussions that are presented in each section; and some others would particularly wish, because of the especial importance of same of course, to read their papers to the general session. But these things cannot be done if the association is to so work as to be of the greatest good to the greatest number. Furthermore, in the original invitation to read papers the places they will occupy will be expressed so that members called upon will know where they will be assigned. As for myself, I should rather present an important paper to a dozen interested men, and have their careful discussion of it, than to present it to a thousand uninterested people, as I would gain more from the discussion, and the dozen men would be better able to impart the thought to others than would the whole thousand. I have grown weary of the rush of papers and the hurried discussions that have become common in this association, and hope that the future may give us more deliberate and careful work.

I hope also for a better feeling toward and a much greater interest in this association by the profession at large. As I look over the dentists of our country and the societies which are at work, I feel that the general sessions of this body should count a thousand interested men, and have many rather than a few separate vigorous working sections.

The time of the year at which we hold our meetings seems to be unfortunate. It is during the hottest season and just about when most of us wish to take our vacations and recuperate. It is not the easiest time for men to put forth their best energies in society work. I know from correspondence that a number of important men are absent from this annual session on this account, and for many years I could not attend the meetings because of the season. I never go to society meetings to rest but to work; and this is true of many of the men who are doing the most for dentistry. I hope that in the near future we will agree upon some other season for holding our annual sessions, and I suggest for consideration the third week in

September or near the last of February. With a better time to meet and with improved plans of work, it is my belief that this association will be able to accomplish much more good for the people, for dentists and for dentistry than it has done in the past. The time is fast approaching when dentistry must make much greater advances along scientific lines and in the adaptation of these to its practice, or lose caste with the related professions, and we cannot allow it to do the latter.

I have also had in mind a scheme for the confederation of the national dental organizations now existing into one body, meeting at the same time or so closely together as properly to constitute one greater meeting in which all interests could be conserved and yet not be confused by being classed as departments or more distinctly defined sections, more fully controlled by those specifically interested in them and yet in a degree unifying the whole of the interests of the profession. The Faculties' Association might become the section upon dental school government; the Pedagogic Association the section of pedagogics; the Examiners' Association the section on the enforcement of law, etc. The whole profession is interested in these subjects, and those who have them most in hand are interested in the general profession. Indeed, it is for the general profession all are working. In some of these organizations it has seemed to me that it might be better both for them and for the profession generally if there could be infused some of the steadying power that would come from a judicious expression of opinion by strong men not so directly engaged in professional work, and who are thus able to see the facts in a broader and more cosmopolitan way. Though this has been hinted at by some of my predecessors, it is probably too early in the present century to seriously consider these propositions, and I suppose they would best be passed for the present with this additional suggestion.

Now to briefly recapitulate the propositions of this address—First, in my opinion we have outgrown our present plans of work and they should be improved. Second, our business methods should retain their present form but express more definitely the duties of its several officers. Third, our present plan of doing all the literary and scientific work in general session should be abolished, and the same should be divided into distinct sections, presided over by officers elected annually by the general session. Fourth, the formation of

the program for each season should be placed in the hands of one committee, with subdivisions to mark the sections, so that the responsibility of this important work is definite. Other proposed amendments to the existing document are only such as to carry out these objects and produce a smooth working scheme. The general plan of organization, the representative character, branch meetings, rules of order, etc., will remain the same as before.

Still, on account of the numerous word changes made it seems best and simplest to offer it as a substitute for the old document. I ask for these matters your most earnest consideration in the interest of our profession and the people whom we serve.

WHY FILLINGS FAIL.

By T. F. Henry, D.D.S., Streator, Ill. Read Before the Illinois State Dental Society, at Rockford, May, 14–17, 1901.

It is not my intention to mention all of the causes why fillings fail, but rather to bring out the different ideas of the profession on this subject in the discussion. In a great many ways the operator is at fault. For instance, a patient calls at the office with a badly decayed tooth and says, "Doctor, I want you to examine this tooth and see if it is possible to fill it at one sitting." You examine the tooth and think it ought to be treated, but you need the money and feel that in justice to yourself and your creditors you ought to fill the tooth immediately, so the operation is completed. In a short time the patient returns with the tooth broken and the filling out. There is where you lost time and money and perhaps the good-will of your patient. Had you taken more time and been more conservative the filling would have lasted for years, and now is the time to rectify your mistake, but instead of trying to find out "why" the filling failed and then remove the cause, you will think, "I suppose I shall get nothing for refilling this tooth," so refill the cavity as quickly as possible, and in a short time there is another failure. If patients pay the price you ask for an operation, they are entitled to the very best work you can do. I will suggest a rule, and if you will follow it I feel perfectly safe in saying that in the future you will not have nearly so many failures. When you are tempted to slight a piece of work just stop and think whether or not you would like to have work like that done for yourself.

Another very frequent cause of failures: A young man locates in

your town and has bright prospects before him. He calls on you and wants to be friendly and sociable. You don't give him a very warm welcome; you look upon him as an imposter and think he has no business in the town, as you were there first, and no one but yourself has any right to do work for any person whom you know. You become jealous and tell everybody to keep away from him as he knows nothing. People have confidence in you and think you are honest, so take your advice. The consequence is, that the young man sits around his office week after week and does nothing. He wonders why, so he tries to think of a plan to get people to come to his office. He begins to advertise cheap work and it is cheap. He is capable of doing good work, but cannot afford it at the prices advertised. He knows when he is doing the work that it will sooner or later be a failure, and you are the cause of that young man's failures, because you forced him to advertise to do cheap work. Why did you not go to him, extend to him the right hand of fellowship, and say, "I am glad to see you and will help you all I can." Speak well of him; invite him to call, and when you can show him any little point of interest do it with a free will, and when you have more work than you can perform, send him an occasional patient. By so doing you will gain his respect and the good-will of your patients. If some of your patients go to him and you find it out, when you meet them again don't pass them by without speaking. That is no way to get them back. Treat them just the same as though you did the work yourself. If you don't you have made a failure and that patient will certainly never go back to you. You never gain anything by speaking ill of other dentists or any one else. If they pass some slighting remark about you pay no attention to it, and at the first opportunity do them a favor and that will hurt a thousand times more than if you do them an injury. Now my good brethren, if you have never tried that, and the opportunity presents itself, do as I have suggested and see if I am not right, and when a patient comes to you with a filling which has been a failure, whether the work was done by you or some one else, try to ascertain why the filling failed and do all you possibly can to remove the cause. If patients are nervous and irritable and ask you to hurry and not try to make the filling so good as it ought to be, don't be prompted by them—be as merciful as you possibly can, but do not slight your work just because the

patients request it. Do conservative work at all times and your efforts will be crowned with success instead of failure.

Discussion. *Dr. J. W. Cormany*, Mt. Carroll: After the rubber-dam is adjusted I wash the tooth off with alcohol. Neglect of this practice is one reason why fillings fail, for when a piece of gold comes in contact with a tooth which is not absolutely clean it does not adhere. Other causes of failure are—faulty preparation of cavities; neglect to polish off the margins; listening to the wishes of our patients rather than to our own judgment; faulty articulation, as where we allow a cusp on the occluding tooth to knock out a beautiful contour filling; lack of attention to details and poor judgment.

Dr. C. P. Pruyn, Chicago: Enamel unsupported by dentin will invariably crumble, and the main reasons why fillings fail is because the majority of operators, while perhaps believing in "extension for prevention," are afraid to cut far enough to prevent further recurrence of decay. Extension for prevention applies to occlusal as well as to proximal cavities, and many failures occur because we fail to cut out all the sulci. Often two or three fillings are placed in the crown of a molar when one large one would be better for the tooth. When Dr. Ottolengui was in Chicago not long ago he stated that he frequently allowed the gold to overlap the enamel walls on grinding surfaces, and that in a molar where the sulci were decayed he would not enlarge to any extent, but simply cut out the decay which presented to the naked eye, then fill the cavity and extend the gold up over the bevelled edge of enamel wall. We know how faulty such a method is, and why fillings made in accordance with it fail, but if more thorough work had been done in preparation, and the gold had been built up firmly to the wall, the operation would have been a success.

Dr. F. H. Skinner, Chicago: A great many seem to have misunderstood Dr. Ottolengui's method, for he strongly advocated cutting out all infected dentin and enamel. We seldom see fissures where any decay has started that the greater portion of same are not more or less infected, and Dr. Ottolengui cuts out all of such.

Dr. Don M. Gallie, Chicago: One of the principal reasons why fillings fail is because too many dentists insert them without first putting on the rubber-dam, which I believe should be used upon every tooth that is to be filled. Again, we are apt to be too careful

of the patient and do not cut away so much of the tooth as we know is necessary, yet this is mistaken kindness. Finally, the careless preparation of cavities in general, and for amalgam especially, causes many failures. Weak enamel walls are allowed to remain, too much undercutting is done, and a total indifference to margins is shown.

Dr. G. M. Brunson Joliet: When a sound tooth decays the dentist is not blamed, but when a filled tooth gives way, even after five or ten years' time, the fault is laid at his door. The fillings may have been practically perfect, but the same causes which made the teeth decay in the first instance have caused them to do so again, and the patient should be educated along this line.

Dr. C. N. Johnson, Chicago: One reason why fillings fail is because the line where the filling and tooth meet is not placed where that surface will be kept clean by the functions of the mouth, and the same conditions that first brought about decay are left to cause a recurrence. Because in some cases narrow fillings, in which the lines have been left in positions which are always unclean, do not fail, it does not argue that such is the proper mode of procedure. As a matter of fact, poor work will often stand indefinitely, because at that particular time the patient becomes immune to caries. Dr. Black states that a cavity in his own mouth has never been filled, has remained open for thirty years, and is no larger today than it was then. If a dentist who did not believe in extension for prevention had filled that cavity thirty years ago he would have exhibited the filling whenever possible as an illustration of the correctness of his theory. The immunity to decay in this instance is of course due to a change in the condition of the mouth. Another reason for failure is improper anchorage, so that the filling is forced out by the stress of occlusion in mastication. Many fillings fail from that cause, yet we attribute the lack of success to something else. We see recurrence of decay along the margin upon the occlusal surface of molar or bicuspid and say that the filling failed because of the recurrence at that point, when in reality the force of mastication has shifted the filling and allowed of leakage. Again, we have failures because of imperfect adaptation of the filling material to the cavity walls. This is particularly true with gold and is not an exception with amalgam. The prevailing impression seems to be that the latter is so plastic it can be patted in anywhere with

little pressure. If dentists could examine amalgam fillings under the microscope they would not feel so complacent about them. Other causes of failure are due to—imperfect finishing of the margin, which leaves a place to invite the retention of deleterious matter and a recurrence of decay; lack of a sufficient density of the filling material to withstand the force of mastication, resulting in a compression and a drawing away of the filling from the walls, etc. Finally, the sooner we realize that it is sometimes necessary to do temporary work the more satisfactory our relations will be with our patients. Whenever a man does a piece of work which he feels will not give service for many years he should say to his patient something as follows: "I have acted for the best under the circumstances. I don't know how long this filling will last, so it must be regarded as temporary work and you must come regularly for examination. A period of immunity may come and the filling stand, but the probability is that it will have to be removed." An operator should do the most permanent work that he can without jeopardizing the nervous system of his patient, but this latter should never be overlooked in his zeal to perform a perfect operation.

Dr. Edmund Noyes, Chicago: The peridental membrane in children from six to twelve years of age (the age varying with different teeth, those which come first having a thin and resisting membrane earlier than those which come later) will frequently not stand the force necessary in making a good gold filling, as the membrane is so elastic and yielding that thorough work in gold cannot be done. The same blow that will condense gold satisfactorily in a patient at twenty will not always do so in the tooth of a patient of ten or twelve where a thick and elastic peridental membrane is present. This is one reason why we may not always make permanent gold fillings for very young people, in fact, why much of our work for them must be temporary. Cement fillings are usually too transient and need too close observation to be trusted, so there are cases in children's mouths where we are justified in making small gold fillings which we expect to fail and require renewal.

A person who has had rheumatism and been brought through the attack by ever so good a doctor usually has rheumatism again, and no matter how skillful an operator fills teeth those same ones or others in the same mouth generally have to be filled again sometime. The reason for this is, that neither the physician nor the

dentist knows enough to so control the patient as to prevent the continuance of the conditions which brought on the first trouble, and as has been stated, our patients should be informed in these matters.

Most of the causes of failures have been touched upon, and I would emphasize only the necessity of perfectly finishing fillings and not leaving them too full. Skillful operators are often deceived by the appearance of a filling even after it has been finished with the disk, so a fine exploring point should always be used. This happens most often at the extreme cervical border, and I believe it is why fillings fail at that point.

Dr. W. A. Stevens, Chicago: I do not believe in putting the dam on every tooth, for in the great majority of cases a napkin if skillfully used will keep the tooth perfectly dry until the operation is finished.

Dr. G. V. Black, Chicago: Dr. Stevens and others of us used to fill teeth before we had any rubber-dam, when we had to use napkins, and even yet some of us old fellows still try to get along without the dam, but I say, put it on all teeth even if only for a short operation.

We should regard dental caries as a pathological condition brought about by something extraneous to the teeth acting upon them from without, and this action depends almost exclusively upon opportunity. Consequently, every dentist should make mouth-to-mouth studies of decay, particularly the beginnings. When you find decay starting in a tooth, study the existing conditions—the relation of this particular surface to others, of this surface to the excursions of food over the surface of the tooth; the relation to the gum margin and to the adjacent teeth. Note what area is liable to decay in this case and study the threatened area in the next one. Study the whitened lines that extend mesially and distally along the gum margin—how far they go, etc. Where decay recurs at certain points or angles watch them. By comparing carefully the location of these recurrences, and one case with another, you will soon find that if the fillings were extended a little further in this or that direction decay would not have recurred, and by this mouth-to-mouth study you will be able to so form your cavities—to so lay the cavity margins—that you can include the area of liability and prevent this recurrence. Always note whether the health and

nervous condition of the patient are fit for a prolonged sitting, and never undertake a permanent filling unless the conditions are suitable for a good operation. The happiness in the practice of dentistry depends upon success in these things more than in the money which you receive, for no financial compensation can equal the satisfaction which comes from seeing patients grow up under our care from childhood to maturity without serious dental disorder or decay.

Dr. J. N. Crouse, Chicago: The blame for recurrence of decay lies with both operator and patient. The ability, earnestness and determination required for successful operations are not possessed by too large a percentage of men who are attempting to practice dentistry, and the patients cannot help but be influenced. A dentist who is not in earnest not only fails to give his patients good service, but he does not inculcate in them a desire to keep their teeth clean and to take good care of them in all respects. The patient's blame lies in the fact that not one in fifty brushes his or her teeth thoroughly, and decay recurs more often because of dirty teeth than from any other one cause.

Dr. Noyes said that the peridental membrane in the young would be injured by the packing of gold. I think, however, that a young patient will stand the operation better than an old one, for the young membranes are not apt to be injured and will rebound quicker from the strain than the matured ones.

Dr. F. B. Noyes, Chicago: We should remember that there are two distinct classes of reasons for failure—on the one hand from imperfect manipulation and on the other from poor pathological judgment. The mechanical causes and pathological causes should not be mixed in our minds and should be studied individually. It is confusing and unscientific to charge up to one thing what belongs to another, yet I fear that the pathological bad judgment is often charged on the mechanical side and vice versa. We usually know when a filling is mechanically imperfect, but many of us frequently leave fillings which are not perfect pathologically. A study of the regions of liability and of the portions of the teeth which are subject to decay would give us the necessary knowledge, and I know of nothing so valuable in this line as extracted teeth. Take those which show perhaps one proximate surface and study it and the surface of enamel, and by carefully comparing these extracted teeth

we will know more about what parts of the various surfaces caries ordinarily attacks.

Dr. W. V-B. Ames, Chicago: Dr. Johnson did not mention some of the causes which have just been brought out by Dr. Noyes, because he is too modest to say that he can pack gold better than the majority of dentists, and I believe that most failures depend upon defective manipulation. When a gold filling which has failed comes under my observation I can usually tell whether the fault lay in defective manipulation or in not sufficiently extending the margins, especially where a shallow area of decay adjoins the filling. In such case there should have been more extension, for the conditions favored the retention of debris and the filling failed simply from lack of cleanliness. The fillings which fail owing to defective manipulation will be along and beneath one of the lateral enamel margins and we have an extensive wasting of the dentin and an undermining of the filling, while in the other case there is little undermining. Here are the two classes between which we should differentiate.

I may be considered a back number, but I don't fill some teeth with gold foil. Occasionally cavities are so inclined that I do not feel warranted in cutting the margins to make them accessible, and when we try to pack cohesive gold with the mallet against margins which require building at an angle lack of success is almost assured. Unless we use hand pressure and proper instruments in such cases some sort of a plastic would better be employed. Gold inlays are very satisfactory in many inaccessible positions. Dr. Royce remarks that defective manipulation is responsible for most unsuccessful operations. I cannot approve of the construction of Dr. Royce' instruments, because they have cross serrations which under mallet force may tend to draw gold away from the margins. We should use oval instruments having only longitudinal serrations beginning at a center which is on a line of the axis of the instrument and diverging therefrom.

Dr. C. R. Taylor, Streator: We do not thoroughly sterilize cavities nor make enough use of the magnifying glass. Further, we should not bevel enamel margins for amalgam fillings. The margins should be polished but not bevelled, because most amalgams have not edge strength enough to stand up against a bevelled wall.

Dr. J. R. Callahan, Cincinnati, O.: I can think of only one

cause for failure of fillings which has not been mentioned, namely, that in nine cases out of ten the dentist feels that his pay is not going to be sufficient to cover his expenditure of time, energy and thought necessary to properly prepare and fill the tooth. If we can devote the time to the work we can fill almost any tooth so that it will last indefinitely under fairly good circumstances, but we cannot give this time unless we feel that proper remuneration will come.

Dr. Henry, closing discussion: I have nothing further to say on the subject except that I feel that I have accomplished just what I set out to do. The gentlemen have discussed the subject very thoroughly, and I feel that I have been greatly benefitted by coming to the meeting.

REPORT OF THE SUPERVISOR OF CLINICS.

By J. E. Hinkins, D.D.S., Chicago. Read Before the Illinois State Dental Society, at Rockford, May 14–17, 1901.

It was my privilege during the past year to attend the International Dental Congress, and as the clinics at Paris were given by representative men of the profession from all over the world, I paid particular attention to same and to the different methods of manipulation. I saw the representative men of the East give clinics in their special lines before the New York Odontological Society last January; next attended a big alumni clinic in Chicago, and can conscientiously say that the clinics at this meeting of the Illinois State Dental Society rank higher in manipulative skill and scientific points than any others I have ever seen.

1. A. W. Harlan, Chicago. *Pyorrhea Alveolaris.* Demonstrating the use of proper instruments and medication, showing the superiority of trichloracetic over hydrochloric, sulphuric, nitric and other acids, and using Koworska's cement for supporting loose teeth. He first applies the rubber-dam and thoroughly dries the teeth, then twines around them fine parafined silk, tying knots in the spaces to entangle it; then applies the paste over that and allows it to harden, all with his inimitable skill.

2. J. W. Cormany, Mount Carroll. *Gold filling*, using Bonwill's mechanical mallet. The cavity was in the mesial surface of an upper right central incisor. He used Pack's crystal foil, starting with automatic mallet and finishing with Bonwill's mechanical

mallet. The mechanical manipulation and preparation of cavity were excellent, but finishing modified contour to injure point of contact.

3. J. E. Hancock, Joliet. *Porcelain Crown.* Upper right cuspid. The crown was made in the usual manner and the result was all that could be desired. In the baking of the crown the doctor demonstrated the use of his time attachment for regulating the fusing of the porcelain.

4. J. R. Callahan, Cincinnati. *Gold and Tin in Definite Proportions for Filling.* The doctor uses the filling material in the form of foil, which he manipulates with a rotary motion by which he condenses it upon the bottom of the cavity and forces it up to the walls at the same time, thus condensing the base and sides of his filling. Next he resorts to the wedging process for the center, finishing with Herbst's burnishers, after which he grinds down with cross-cut burs which have had all the sharp edges reduced by running on sand-paper, finishing grinding with corundum wet with pumice-stone to prevent clogging of the corundum wheel with filling material. Finishing and polishing in the usual manner.

5. F. E. Roach, Chicago. *Practical Application of the "Fellowship" Replaceable Facing.* The doctor demonstrated the use of a new instrument of his own design for holding the parts in proper relation to each other while soldering. The merits of the "Fellowship" replaceable facing are unquestionable.

6. C. C. Corbett, Edwardsville. *Amalgam Filling with Cement Anchorage, Using "Fellowship" Alloy.* Disto-occlusal cavity in lower right second molar. Filling was inserted without applying the rubber-dam, keeping field of operation dry with napkins. The cavity was prepared without anchorage. He claims that in frail teeth the cement strengthens the walls and it is not necessary to cut away so much tooth substance; packs amalgam while cement is in a plastic condition. Finished filling showed no sign of cement around margins and seemed to be all that could be desired.

7. C. D. Lukens, St. Louis. Not present.

8. W. H. Taggart, Chicago. *Something About Inlays.* He takes an impression of the cavity with oxyphosphate of copper, as previously demonstrated. After securing a perfect impression it is replaced in the cavity and an impression of the parts are taken in

plaster. The impression is separated along the incisal edges of the teeth and the parts removed; the impression of the cavity is removed and placed in the plaster impression; the parts are fastened together with sealing-wax and afterwards with more plaster. At this stage he packs with copper amalgam the impression of the tooth to contain inlay, thus giving a metallic model upon which to do the inlay work. He allows the copper amalgam to extend up rootwise in a rough uneven way and pours his model in plaster, which gives him the copper amalgam tooth set in the model in the proper relation with the other teeth, and this enables him to perfect the contour of the inlay on the model, insuring perfect contour when the inlay is placed in the tooth. The especial virtue of this method lies in the fact that the copper amalgam makes a perfect model with lines and margins as sharply defined and clearly outlined as they are on the tooth, and also that the model to be worked upon is out of the mouth and may be approached and manipulated from any position.

9, F. H. McIntosh, Bloomington. *Building Up Broken-Down Bicuspids and Molars Preparatory to Receiving a Gold Crown.* He first fits a band of 40 gauge copper accurately around tooth; then cements a staple of any rigid metal in root-canals, packs amalgam around it and accurately fills copper band. After amalgam has set he slits band and removes it, which leaves an amalgam restoration around which he fits a gold crown in the usual manner. In cases of separation of the roots the doctor uses tea-lead as a metal compatible with the soft tissues. The only point I should criticise would be the insufficient anchorage afforded by the metal loop on account of its smoothness.

10. W. T. Reeves, Chicago. *Porcelain Inlays.* Demonstrating the use of the Hammond electric furnace. The doctor's method of burnishing matrix to cavity by using rubber-dam or similar material that will hold all portions in contact with the cavity is entirely original. In this clinic he demonstrated that he is past grand master in the art of porcelain restoration.

11. Dr. T. W. Brophy, Chicago. *Cleft Palate.* He exhibited two patients of previous operations for cleft palate which showed best possible results.

12. B. D. Wikoff, Chicago. *Bridgework.* A novel method of making a bridge, which consists of a supplementary cusp soldered to a crown upon a second lower molar which had tipped for-

ward owing to the loss of the first molar, allowing it to rest against a crown on the second bicuspid, with a vertical groove in the molar to engage a lug soldered to the bicuspid. A good thing.

13. E. H. Allen, Freeport. *Gold Filling.* Mesio-occlusal cavity in upper left first molar. General preparation of cavity good, a little carelessness in detail. Filling well inserted and point of contact good.

14. A. W. McCandless, Chicago. *Setting Crowns and Bridges with Gutta-Percha.* Using Kerr's electric annealer for softening gutta-percha. He moistens pin and inner wall of root-canal with cajuput.

15. Robt. Good, Chicago. *Pyorrhea Alveolaris.* Younger's method. Dr. Good continued operation of clinic of last year. The teeth then operated upon showed good results.

16. O. A. Chappell, Elgin. *Dead Soft Gold.* Occlusal cavity in lower left second bicuspid. No rubber-dam. Used automatic plugger and one of clinician's own design. Although we do not approve of filling teeth without using the rubber-dam, the finished filling presented a very good appearance.

17. W. V-B. Ames, Chicago. *Utilization of Atmospheric Pressure.* He demonstrated the utilization of atmospheric pressure in the retention of entire dentures, by so constructing them that the entire periphery extends upon and slightly displaces lax tissue.

18. C. P. Pruyn, Chicago. *Pressure Anesthesia* for the removal of a live pulp. Unable to secure patient.

19. Josephine D. Pfeiffer, Chicago. *Filling Root-Canal.* Using sandarac and gutta-percha cone. Operation all that could be desired of any man or woman.

20. A. F. James, Oak Park. *Ladmore-Brunton Matrix.* Preparation of cavity good, filling well condensed, point of contact excellent.

21. E. R. Carpenter, Chicago. *Pyorrhea at Root Bifurcations and Its Treatment with Oxyphosphate of Copper.* Scaled and removed all deposits, asepticised the root, pumped oxyphosphate of copper from the lingual to the buccal side, and used hot air to facilitate setting. Operation dextrously performed and a good method for such cases.

22. D. M. Cattell, Chicago. *Gold Filling.* Filling a proximo-occlusal cavity in an upper right first molar; gingival third with

non-cohesive cylinders or mats; occlusal two-thirds, including step anchorage, with cohesive gold. Technique perfect, results artistic.

23. E. A. Royce, Chicago. *Tooth Shades.* Demonstration of the varying shades of the natural teeth in the same mouth as applied to artificial dentures. This showed that the central incisors were the lightest teeth in the mouth, the laterals about two shades darker, the cuspids from four to six shades darker, the bicuspids and molars about two shades darker than the central incisors, thereby furnishing a pertinent suggestion to prosthetists.

24. Thos. L. Gilmer, Chicago. *Surgical Clinic.* The doctor would not operate because of a conscientious feeling that the patient had not received proper systemic treatment.

25. C. N. Johnson, Chicago. *Gold Filling.* Mesio-occlusal cavity in upper left second molar. The operation was in harmony with his idea of restoration.

26. S. F. Duncan, Joliet. *Gold Filling.* Lower left second molar, occlusal cavity, using the Berry electric engine and Bonwill mechanical mallet No. 3, and White's uncut cylinders. Finished filling showed regular enamel margin, and excellent operation.

27. L. K. Stewart, Chicago. *Long Bites in Continuous Gum Work.* This is a method of leaving the palatal portion of the plate uncovered with porcelain to avoid extra weight, wiring the plate all around, the same as in gold plates, and finishing porcelain against wire using plain rubber teeth. This might be an admirable method in special cases where indicated.

28. W. W. Shryock, Ft. Wayne, Ind. *Seamless Gold Crown.* After preparing the tooth take an impression and articulation, also two wire measurements; fill, and open the impression, then with jewelers' fine saw cut the cast at an angle so as to break the tooth to be crowned from the cast, place the first wire over the tooth, and carve until the wire will pass to the same place on the tooth as it did in the mouth, at the margin of the gum. The second wire is for the size of gold capsule. Then cast in metal an impression of this root model over which the crown is to be passed after the swedging is finished. Roughen top of plaster model, varnish adjoining and articulating teeth, moisten top of model, and build to articulation with soft plaster, being careful that no plaster shall interfere with the gum margin. After the plaster has set, remove from articulator, and carve the tooth as desired. After varnishing this tooth

model, make counter-die in plaster and two metal dies in this counter-die, one with long stem, over which to work gold capsule partially to place, and the short stem for swedging. Place the partially swedged crown over this die, and a lead capsule over the bottom, to keep the swedging material from under the crown, and swedge in the Krieger device. By this method there is no band, nor fitting done in the mouth, and the crown is swedged outside in.

29. I. B. Crissman, Chicago. Was called East and so was unable to come.

30. G. A. McMillen, Alton. Not present.

31. A. O. Hunt, Chicago. *Uses and Abuses of Air-Chambers.* Also W. E. Griswold's removable bridge system. This clinic consisted of the exhibition of models of various kinds of mouths, hard, soft, flat and deep, showing the adaptation of dentures and the non-necessity of using the air-chamber, also the elevation of the labial and buccal muscles to their normal position. The Griswold removable bridge, showing its adaptation to all conditions in the mouth where partial plates or bridges are used.

32. A. G. Johnson, Chicago. Unable to secure patient.

33. J. S. Bridges, Chicago. *Porcelain Inlay.* Demonstrating the Ash swedger. A cavity is prepared and impression is taken in gutta-percha, then the latter is invested in plaster on a tray made for the purpose, and the matrix is forced into position with cotton, using platinum .0001 of an inch in thickness. Close's body is used for the first baking, and Brewster's foundation and enamel for the other two, if two more are necessary. By not covering the margins and by gradually building in the porcelain and using the water-bag, burnishing back with steel instruments, shrinkage is avoided. Can be reswedged from time to time as it is baked. The Close body is punctured to allow the porcelain to shrink towards the platinum instead of towards the center.

34. J. H. Prothero, Chicago. *Arrangement and Occlusion of Teeth*, so as to secure three point contact and permit of free lateral movements of the jaw during mastication. A model showed a full upper and lower set occluded after the method mentioned, in which the molars and bicuspids on the working side of the mouth were ground to permit of close contact when sliding down to full occlusion. The idea was to exemplify the arrangement of artificial teeth so nearly according to natural conditions as possible.

35. J. O. Brown, Chicago. *Gold Filling.* Upper right central incisor, using Watts' crystal gold. Cavity well prepared and the finished filling presented an excellent appearance.

36. J. W. Slonaker, Chicago. *Nitrous Oxid Gas.* The doctor demonstrated on a number of patients his usual skill in administering gas and extracting teeth.

37. G. W. Dittmar, Chicago. *Gold Filling.* Upper left central incisor, mesial cavity. Aesthetically correct.

38. W. F. Green, Evanston. The only man out of forty-two who failed to respond or notify the supervisor of clinics. He apparently did not realize the importance of his obligation.

39. L. L. Davis, Chicago. *Celluloid Cement Filling.* Your committee would criticise celluloid fillings, on account of the length of time for restoration, the esthetic effect and the doubtful durability.

40. C. S. Case, Chicago. *Orthodontia.* The correction of facial contour by a combination of prosthetic and orthopedic dentistry, principally applicable to cleft palate patients whose lack of development of the anterior portion of the superior jaw produces a facial deformity and a depression of the upper lip. By removing the deformed teeth, expanding the arch, and inserting artificial teeth with a rubber attachment that supports the upper lip and extends under the nasal septum so as to support the end of the nose, the facial deformity may be corrected. The clinic was exceedingly interesting and instructive.

41. C. B. Powell, Jacksonville. *Broach-Holder.* Exhibited a broach-holder which was unique in design.

42. R. C. Brophy, Chicago. *Denture Metal.* Demonstrated a new metal for lower dentures which has some merit.

43. I. Otteson, Christiana, Norway. *Swager.* Demonstrated the use of Dr. Sandvig's swaging apparatus, which has a number of good features.

44. Dr. Black was indisposed and by special request was excused.

45. Jas. B. Vernon, Missouri. *Gold.* Demonstrated the use of his new gold.

46. J. E. Nyman, Chicago. *Porcelain Crown.* Showed porcelain crown of three years' service. Platinum extended one-fourth inch under the gum and the tissues were healthy.

47. C. P. Pruyn, Chicago. *Gold Filling.* Showed a gold filling in perfect condition which had been inserted twenty-five years ago.

PATHOLOGY IN DENTAL PRACTICE.

By Geo. W. Cook, D.D.S., Chicago. Read Before the National Dental Association, at Milwaukee, Aug. 6–9, 1901.

We have a number of ill-defined symptoms supposed to arise from the non-elimination of cellular excretory product or the non-oxidation of certain nitrogenous matter. They are called autointoxication. Primarily this conception was based upon the fact that all living plant and animal life excretes certain substances which are poisonous to the cell from which they come. The question naturally arises, where does this animal excretion originate? It is not taken in with food or drink, for if one took nothing but pure food, pure water and breathed only pure air, the excretion of the organs would contain more or less poisonous products. These poisons are not found in the normal tissues of the body. We know that in the presence of warmth and moisture proteid matter is broken up by the agency of bacteria into its ultimate simple molecule nitrates, nitrites, ammonia (NH_4) CO_2, water, and various inorganic elements, viz., S. Fi. Na. K. Mg. Ca., etc. It is also a well-established fact that during this process of splitting up the proteid molecule by bacteria, there are a number of intermediate products formed which are basic nitrogenous crystalline substances that are intensely poisonous. Such, for instance, are called ptomains, the formation of which always points to action of bacteria on proteid substance.

The study of protoplasmic chemistry shows that the cellular elements which compose the animal body are capable of acting chemically upon dead organic matter—first, by synthetically building up the simpler organic molecules into the more complex proteid molecule; second, by acting analytically, breaking up the higher complex proteid molecule. In physiology this latter force is called oxidation. Each cell in the multicellular body may be considered as an individual unit capable of performing all the life functions of the body, viz., taking in food and oxygen and excreting CO_2 and nitrogenous waste products in the form of uric acid, xanthin, urea, etc. The nitrogen taken as food into the normal adult animal body should equal the nitrogen excreted in the form of xanthin, uric acid and urea.

In the chemical process of splitting up the proteid molecule of the cell there is formed a comparatively simple molecular constituent known as urea. This proteid molecule when split up in this way

necessarily gives rise to the formation of a number of intermediate products which are looked upon as steps in the oxidation process; they are antecedents of the nitrogenous end product, urea. Among these might be mentioned certain of the amido compounds: Adenin (C_5H_5 Ny_4); hopyxanthin ($C_5H_4N_4O$); xanthin ($C_5H_4N_4O_2$); guanin, ($C_5H_5N_4O$) uric acid ($C_5H_4N_4O_3$), etc. These compounds, which were supposed to originate in the tissues either along with or as a precursor of urea and uric acid, are termed leucomains. This, however, is a very indefinite term. In fact, most of these crystalline nitrogenous substances correspond very closely in chemical composition to certain basic nitrogenous crystalline substances found in plants and known as alkaloids.

There is to be found such well-defined amido compound in the tissue of plants as the basic xanthin, also caffein and theobromin, the last two of which are classed as belonging to the so-called leucomain group. In the vegetable kingdom these compounds cannot be considered as transitory oxidation produets, but as integral parts of the proteid molecule; so in the animal proteid molecule these may exist as a part of the molecule only to be split off by a certain chemical manipulation necessary for the excreted products. As for their being poisonous to the body, we can no more admit it than that caffein is poisonous to the coffee tree, or nicotin to the tobacco plant; for in both cases these alkaloids exist, not as pure xanthan or caffein, but in the proteid compound which renders them nontoxic to the plant or the individual in which they are found. But the idea is still prevalent that during the process of oxidation (by which term we mean the transformation of the complex proteid molecule as it exists in the living cell or the dead food material to a more simple compound eventually ending in urea, $C O_2$, water, which is excreted from the body as such) certain of the supposed intermediate products are no further oxidized and remain in the tissue and are capable of producing toxic symptoms. That proteid matter is excreted from the animal body in the form of urea is true, but we have little or no evidence that certain basic substances in dead proteid matter are intermediate oxidation products. It is well known that if urea be retained in the body toxic symptoms will be produced (uremia) and in such a case the term autointoxication might be applied. These remarks will call attention to the theories on which the idea of autointoxication was formerly based.

In this country Vaughan has written extensively on what he terms autogenous disease or disease arising from within without any external stimulus, in the form of bacteria or other agency. From the evidence at hand we must admit that there are, or at least could be, pathological conditions arising from within, due to the retention or non-oxidation of the products of cell metabolism, just as we know that retention of urea or uric acid may give rise to pathological conditions and toxic symptoms. But from a study of biological pathology we cannot admit that these so-called autogenous symptoms are primary and independent of external disease stimuli. Under normal conditions the animal body as a whole is able to dispose of its own excretion through the bowels, kidneys and skin; likewise every cell is able to contribute its normal quota of excretory matter to the general avenues carrying off the waste products; but let any of these general avenues of excretion cease to do their work and toxic symptoms will soon develop. Going back still further, the individual cells may cease to excrete their dead matter and cause retention, which is followed by toxic symptoms. But the primary cause which so changes the chemical constituents of the individual cells that they no longer carry on their work in a normal way, or so changes the kidneys that they no longer excrete the normal amount of urea from the body, or produces poisonous decomposition products in the bowels, must come from without; some agency acting as a disease stimulus. This view must do away with the term autointoxication; or the autogenous disease as a primary pathological entity, and reduce such conditions to the plane of secondary conditions following the external disease stimulus.

This is well illustrated in rheumatic fever, which has long been looked upon as a form of autogenous disease due to the retention or non-oxidation of certain nitrogenous cell products, viz., uric acid and some others of the xanthin basis. Admitting that certain of these do accumulate in the form of urates in the body during rheumatic fever, the primary exciting cause of it is now looked upon as a germ entering the tissues and so changing their chemical constituents that oxidation or what not cannot be carried on normally, which thus gives rise to the rheumatic pathology. Adami has demonstrated almost beyond doubt that pernicious anemia is secondary to external causes. This so-called tired feeling and common headache are due to bacterial causes.

All biological chemical investigations are forcing us to answer these questions in the affimative. We have many reasons for believing that many of the so-called autointoxications or autogenous diseases are due to a chemical change in the proteid molecule of the cell caused by a chemical change in the cell environment. This must necessarily bring about a change in metabolism, thus liberating the poisonous products of the cell. But where shall we look for the primary cause? In nature all organic matter is reduced to its primary elements by the agency of bacteria; that is, by the enzymotic or fermentative action. Also, on living or organic bodies certain bacteria find a food media, and act in an enzymotic or fermentative way, giving rise to certain changes in the cell. This is well illustrated by the action of bacteria on the contents of the large bowel, forming indol, skatol, phenol and other substances, which if absorbed into the system may act as poisons.

It is a well-known fact that bacteria may and even do pass through the walls of the bowels and enter the general circulation. When such is the case there will necessarily be a change in the blood and lymph, which in time would act upon the cell, changing its activity. This is what Adami calls subinfection. So far as we know, we can trace all the so-called autointoxication to a primary subinfection from the bowel or respiratory tract. Bacteria may act at any place along the alimentary tract from the mouth to the lower bowel. If the condition of the mouth is not hygienic, or the food is not of the proper kind, the stomach or bowels cannot dispose of it at the right time, thus giving lodgment to various fermentative bacteria. They or their products are readily absorbed into the system, and either may give rise to poisonous symptoms or may change the chemistry of the blood lymph or the cells themselves, also change non-pathogenic to pathogenic bacteria, which are generally looking for an entrance into the body either through the respiratory or gastro-intestinal epithelium, there finding favorable media in which to grow and carry out their further changes which are incompatible with the life of the host. This second condition is really a subinfection and explains the way in which all infectious disease, whether of a local or general character, may originate. It has been demonstrated experimentally that if the bowel is occluded in any way the bacterium coli communis soon passes through the epithelium and appears in the blood and tissues of various

organs, such as liver, spleen and kidney. Pernicious anemia and cirrhosis of the liver have been attributed to subinfection.

It would be taking a long step backward to say that the cell is the entity of disease, especially of such as pyorrhea and many of the local lesions of the oral cavity. When we consider that a disease process is the result of a series of factors which are of unequal value, we are then forced to say that the essence of the disease is not in the cell (Virchow), nor is it time or place (Pettinkofer), nor that a bacterium is the true and sufficient cause of disease (Koch); but all of these are factors of unequal value. With these facts before us we can no longer say pyorrhea alveolaris is constitutional any more than that an alveolar abscess is constitutional—both of which are to be dealt with as local microbiological affections, the same as rheumatism, catarrh, influenza, pneumonia and diphtheria. The cure of this disease, as of all other infectious diseases, must be to remove the predisposition of the individual, under which come the phenomena of inherited and acquired immunity and predisposition to this disease. We know by the action of certain physical or chemical agents that it is possible to arouse by local treatment, to the temporarily exalted activity, the natural protective forces residing in the local cells, and by constitutional treatment to so act upon the wandering cells and the active chemical bodies of the tissues and fluids as to lessen the predisposition of the local cells to the external stimuli (bacterial). It is not a question of one unknown quantity, but three variable quantities with which we have to deal. Predisposition may in some cases manifest itself to a point of susceptibility. This group of cells coming in contact with a facultative parasitic and saprophytic microorganism, a disease process is established. There is to be found a similar biological phenomenon in the tubercular bacillus.

In studying any pathological process in the oral cavity, pleomorphism of microorganisms is an important factor, and if the investigation along biological sciences is followed out in disease processes of the oral cavity, as has been done in other fields, it will make a great epoch. The results of some investigations of mine bearing upon this subject have brought to light several very interesting problems which have thus far never been discussed in this connection, for instance, the changing of the osmotic pressure of saliva. I have been able to change the pathogenic microorganism to a non-pathogenic state by the use of different saliva. The pathogenic proper-

ties of microorganisms in the saliva depend upon the nutritive value; therefore it is purely the chemical properties of saliva that manifest themselves in the changed conditions of microorganisms, both morphologically and pathologically. In this connection I will relate some tabulated observations in persons whose gastro-intestinal disturbance was the predisposing cause of local infection.

Vincent described what he called the bacillus fusiformis (which is quite common in the human mouth), and called attention to certain pathological processes on the oral mucous membrane. I have had opportunity of studying the vital phenomena of this microorganism. It seems to live in the oral cavity as a saprophyte until intestinal disarrangement appears, when, if the trouble is but slight, this bacillus will set up only a passive inflammatory process. Should the intestinal disorder increase, the local ulceration also increases. It is only by a bacteriological examination that it can be determined from some of the syphilitic lesions in the mouth. I am not as yet prepared to say whether or not this germ is always present in the oral cavity, but if it is, there are times when there are but few.

One of the most interesting phenomena I will mention is the rapid increase in irritating properties and in numbers of the germs. When mercury is administered in any great quantity and for some length of time, mucous patches appear on the oral mucous membrane, sometimes involving one or both tonsils and forming a pseudo-membranous exudate which might easily be mistaken for a diphtheritic membrane. In some cases the breath becomes more or less fetid; the parts affected are slightly painful to the touch; and in two cases there was glandular enlargement. A rise of temperature is sometimes present where a considerable area of mucous membrane is involved.

The points I wish to bring out are, that the germ may be considered as one of the oral cavity, for the reason that so soon as any gastro-intestinal trouble is set up mucous patches may appear on the oral mucous membrane or tonsil, possibly both, in which it is the exciting cause. I believe as Lesner does, that in mercurial stomatitis it becomes a factor of considerable importance; by local treatment the local affections disappear, but in a few days they will return unless the predisposing cause has been removed. How true is this in pyorrhea alveolaris? There are at least six other affections of the oral mucous membrane which are due to the action of microor-

ganisms, but only where there is a predisposing cause in the body fluids.

Marmorek, Kolle, Vidal and Bezancon have all observed the difference between streptococci grown in the mouths of healthy persons and those grown under other circumstances. Those grown in the mouth are short changes and will not set up a disease process as do those grown in bouillon. I grew the streptococcus brevis in saliva of a person who was suffering from nervous prostration after having undergone a surgical operation. I followed this up in the following cases: Two persons suffering from a slight gastro-intestinal affection; one individual suffering with a valvular trouble of the heart; five with rheumatic affection of the joints; one with carcinoma of the stomach. The virulence of the streptococci would increase when the growth was continued for any length of time in the saliva of these individuals. However, if the growth be returned to the saliva of healthy persons the short change will again appear and the pathogenic properties will become noticeably less.

In six rheumatic persons I studied the bacteria of the tonsils and found that three of them had a diplococcus described by F. Meyer. All of these cases had pyorrhea alveolaris, and showed the characteristic bacteriological finding. This diplococcus found in the tonsil in some cases should be called a streptococcus. The length of the chains seem to depend upon the condition of the gastro-intestinal tract. When the bowels become constipated it manifests itself in the length of the chains taking on a streptococcus form. When saline cathartics are given internally, or if the individual takes sodium salicylate, the diplococcus form again appear and finally disappear from the tonsillar mucous. Clinicians have observed such conditions after injection of antitoxin. The saliva is a salt solution containing chiefly Na. K. and Mg. ions, and as the irritability of protoplasm depends upon the proper qualitative and quantitative relation of these ions, any change in the constitution of an individual will change the ions in the saliva, thus affecting the irritability of the protoplasm of the microorganisms. The pathologist of the oral cavity has had and always will have difficulty in establishing disease processes on anything like an accurate basis as mathematics, for the substance is too complex for the use of mathematical rules.

In conclusion, I wish to emphasize the point that there is a marked line between a predisposing and an exciting cause of disease.

Discussion. *Dr. W. H. Whitslar,* Cleveland: This is an admirable paper of Dr. Cook's, and I should feel better prepared to discuss it if I had had an opportunity to read same beforehand. It is due to all concerned that a reasonable time be allowed for the discussers to digest the material at hand before papers of this technical character are read in the meeting. Dr. Cook states that disease does not reside in the cell, the circulatory fluids, or bacteria alone, but that it may be a correlation of these forces. Upon these elements are dependent the principles of chemistry and physics interchangeably. Osmotic forces are spoken of as having much influence in rendering fluids suitable or unsuitable media for the proliferation of bacteria. This indicates the changes to which saliva is subjected. Saliva is one of the recrementitious fluids of the body, that is, it is formed in the body and excreted naturally, but if not expelled it is resorbed. The liver is one of the secretory organs of the alimentary canal and secretes a fluid called gall. If this is not properly excreted or expelled from the body, osmotic pressure causes a diffusion of same, and its coloring pigments are shown in the skin and the coloration which we term jaundice. The principle is the same with the salivary glands, and as Dr. Michaels has demonstrated, the saliva carries with it in certain cases biliary pigments as well as other substances. Now, we realize that saliva thus contaminated may become a suitable media in which bacteria proliferate and become the exciting cause of autogenous diseases. The peculiar condition of the saliva may lead to a subinfection, as the essayist states, but direct or autoinfections are more disastrous.

Now upon what do all these processes depend? First, a correlation of all things in nature, and second, the body itself, and its nervous system principally, upon which coordination of all its powers depend. In the present age we should become better physiologists and pathologists, so that we may recognize disease. When we delve into the knowledge of the chemistry and anatomy of physiological and pathological processes which come as the result of injury to or disease of the nervous system, then we are getting at the root of all disease. We may obliterate portions of the brain, of the spinal column, and of other parts of the body, but when we obliterate the nerve influences, the neuro-dynamic forces which are constantly playing back and forth, death results. In the study

of the etiology of dental caries we must go back of the normal functions of the body and note the pathologic conditions which result from interference with the neuro-dynamic forces which are variable. In so doing we find the forces which enter into the production of saliva, and that the materials residing in the circulatory fluids poison the glands, as is evidenced by the saliva in the mouth. The result is that there is a coordination with the bacteria in the mouth towards the production of dental caries.

TEACHING OF ORAL HYGIENE IN THE PUBLIC SCHOOLS.

By Joseph Lang, D.D.S., Cincinnati. Read before the Cincinnati Odontological Society, Jan. 5, 1901.

My object in selecting the above subject is not merely to call attention to the neglected condition of the children in our public schools, but if possible to get the profession interested enough to come to the rescue of these little ones. In nearly all cities we have men appointed or elected to perform certain duties whereby people are benefitted. The board of public affairs sees that city ordinances are enforced, so that the people may have as many privileges and conveniences as possible. The board of education selects such books and adopts such systems as are best suited for the proper development of the mind, also looks after the heating and lighting of school-rooms so that the children may not be injured from the neglect of these things. The board of health tries to keep the city in as sanitary a condition as possible so as to prevent disease. Notwithstanding all the various officials who look after the welfare of the people, there exists a deplorable condition which has been overlooked and sadly neglected. I refer to the hot-beds and breeding places of microorganisms which may be found in the mouths of most school children.

We all know that even the cleanest mouth is full of germs, and that a dirty mouth allows the bacteria to enter the system. Probably many of the illnesses common to children come from this cause, as the percentage of those who clean their mouths and teeth is very small. We younger dentists, who must work for the poorer classes, realize better than the average practitioner the terrible condition of most children's mouths. It is a frequent occurrence to have a mother look at me as if I were unraveling some great

and profound secret when I call her attention to the fact that her child may lose all its teeth because of their filthy condition. Her usual excuse is that she did not know any harm was being done, as she had never cleaned her own teeth.

I should much rather see a child with a dirty face than with a filthy mouth, for the former does no harm physically. It is a common occurrence for a teacher to send a child home to wash its face and hands, but never its mouth. I once asked a teacher the reason for this, and she replied that the child might have left home perfectly clean but have gotten dirty on the way, so that the parent would not be to blame; but that on the other hand, if the child's mouth were dirty the mother would know that the condition was due to her failure to look after the matter, and would consequently take as a personal insult the teacher's action.

It seems useless to try to educate the parents direct, or the child through the parents, but it could be easily and effectually reached in the school-room. If children were taught at school the need of keeping teeth and mouth clean they would usually profit by the instruction, and furthermore would repeat same at home, in many cases calling the attention of the parents to this vital issue. Dentistry is not like medicine in many respects. If a child had a running sore on its body the parents would either treat same or consult a physician, but a child might have a constant discharge of pus in the mouth, due to abscesses or deposits of tartar, and a dentist would not often be called upon unless considerable pain accompanied the trouble.

The parents' neglect of their own and their children's teeth is perpetuated in succeeding generations, for inasmuch as the children are never taught to think along this line, and are influenced by conditions at home, when they grow up they neglect not only their children's teeth but their own. Recently a well dressed and prosperous looking woman called to have a tooth extracted. Upon examination her mouth and teeth showed a condition which was simply disgusting. The latter were literally covered with tartar and some were loose enough to be removed by the fingers. I gave the patient a mirror and asked her to note the pus which exuded when I pressed on the gums. I told her she was running an awful risk of contracting some stomach disorder, and she replied that she was already very bilious and furthermore, that she had been treated for

over a year by a physician to get rid of a nasty coughing spell which she had every morning upon arising. Relief would come only after pus had been coughed up. I removed the tartar, treated the gums, prescribed a mouth-wash and instructed her to call again in a week. At that time she informed me that she had not had "a spell" once since her first sitting. I then asked her how it had happened that she had never cleaned her mouth and teeth, and she replied that her mother never had taught her to do such a thing, and that she really knew no better. This is only one of many cases, the details of which you could supply from your own practices.

Many cities have passed ordinances prohibiting spitting in the street cars and public places. More good would be done by passing an ordinance providing by oral hygiene for the checking and prevention of disease in the public schools. This instruction in the schools should not be given by the teacher, but by a dentist competent to impress upon the minds of the children the serious discomfort and disease which will result if the teeth are neglected. The children would give more heed if the advice came from "a doctor" and stranger than from the teacher who is always preaching to them on some subject or other. The instruction should be repeated say once a month, and the good sense and ingenuity of the lecturer would suggest different forms in which it could be presented. Properly these dentists should be appointed by the mayor or council and should be paid for their work, but if for the present at least this is is impossible of accomplishment, many able and competent practitioners would be willing to give their time in this service without financial remuneration. Not only would a great benefit be conferred upon humanity, but the profession of dentistry would be brought before the public in a legitimate way, and would receive the recognition to which it is entitled. Furthermore, when people are trained to regard their teeth as necessary and vital organs in the human economy, the income of the dental profession will be increased.

Surgical Epilation Without Razor.—Queirel has found calcium sulphydrate extremely useful in removing hair from the field of surgical operations, according to the *Semaine Med.* It is applied in a thin layer like a paste and rinsed off with tepid water in five minutes, rubbing lightly with a cloth. The hairs wash off with it, leaving the surface smooth, without irritation or inconvenience of any kind, except the rather unpleasant odor of the hydrosulphite, which can be disguised if wished. The hair soon starts to grow again.

Digests.

TONGUE AS A BREEDING PLACE FOR BACTERIA. By M. H. Fletcher, D.D.S., Cincinnati. Read before the Am. Med. Assn., June, 1901. The accompanying photomicrographs of sections of the human tongue show it to be covered with glands, fissures and spinous processes, the latter slanting at a great angle. It is evident that this surface may hold pabulum and protection for the development and growth of myriads of bacteria. It is possible that cavities in the teeth, and gums diseased from deposits about the teeth, are more prolific, but probably not. Out of the "seven nutrient media for bacteria in the oral cavity" given by Miller, five are always present on a coated tongue, namely, normal saliva, buccal mucus, dead epithelium, particles of food and exudations from diseased gums.

Formerly physicians were very careful about the examination of the tongue, but at present the diagnostic value of its coating is largely disputed. On the other hand, some of the best physicians make the tongue the principal basis of their diagnosis, especially in gastro-intestinal troubles. But the tongue as a breeding place for bacteria is properly attracting more attention at present and cannot justly be ignored. Van Valzah-Nesbet has said: "The tongue is not a mirror of the stomach, as the ancients supposed, but is a local mirror which reflects only that which comes over its surface." Dr. A. L. Russel says: "The color is due to the pearly color of the cornified epithelial cells covering the papillæ; to retained particles of food and the debris of microorganisms, broken down epthelium and mucus. The color of the organ proper is quite as important as its motions, contour, lesions and coating. It is well to remember that in perfect health there is usually a slight, uniform coating of a whitish color diffused over the entire tongue, and that towards the base of the tongue in the region of the circumvallate papillæ there is always a heavy coating, which is increased with any increase of the normal coating of the anterior portions." Hare says: "The coating may be black from the the ingestion of iron, charcoal, bismuth, ink, berries, cherries or red wine. It may be stained brown from tobacco, licorice, nuts, prunes or chocolate. It may be yellow from the ingestion of rhubarb or laudanum."

F. Forcheimer says: "In some cases the tongue is of great clinical importance and in many others its examination for diagnostic purposes is without value. It goes without saying that no case has been completely examined unless the mouth has been looked into, and yet in a great many cases nothing is gained by this examination. * * * The tongue is affected as the result of local and general conditions. * * * The changes that take place are in the direction of size, shape, color, coating or fur. The blood affects the color of the tongue, as a whole, more than any other cause. The

Section of Human Tongue.—X 75. aaa, Filiform papillæ; b, mucous membrane; c, muscular tissue; d, circumvallate gland.

furring of the tongue is that portion of our subject which has been most studied. The fur upon the tongue is, when examined microscopically, seen to be made up of epithelial cells, molecular detritus and organisms of various kinds, held together by mucus. The organisms are those usually found in the mouth; sometimes we find pathogenic organisms, most frequently the pneumococcus and pus-producers. In long-continued fevers, in which the absence of moisture is the predominating cause, we have a peculiar condition of a dry white fur, quite thick and adherent. When there is not sufficient movement of the tongue there results a fur, because fewer of the old cells are removed than would be under normal circumstances.

In paralytics we constantly see a furred tongue. The place of deposit of this fur depends very much upon the size and shape of the tongue; where the tongue does not come in contact with other parts of the mouth it will be thick, at the edge it will be rubbed off, leaving a red outline. The most ludicrous mistakes occur to those who overlook the fact that particles of food and medicinal agents give their color to the fur; rhubarb produces a beautiful liver tongue."

The consensus of opinion of the foregoing investigators seems to to be that the coatings of the tongue are local and not indicative of

aaa, Filiform papillæ; b, mucous membrane; c, muscular tissue.

any particular disease, and that the mass contains large quantities of bacteria. These coatings may be accounted for as follows: The dorsum of the tongue, with its processes, glands, fissures and rough, horny surface is most favorably constructed for holding detritus from its own surface and from other parts of the mouth, also small quantities of food and tartar; but the great factor of the formation and persistence of this coating is mucus. The coating forms at times into almost a membrane. This is due to the cementing qualities and the insolubility of the mucus discharged into the mouth.

The easily and quickly forming cakes of mucus in the nostrils are accounted for by the continuous passage of air over its surface, dry-

ing it rapidly, carrying dust and foreign matter into its substance which becomes imbedded, producing black, yellow, gray, or other color, dependent upon the character of foreign particles with which the air is freighted. The surface exposed to the air becomes hardest; that next to the membrane is softer. When the mucus finally dries and shrinks, it breaks into patches, curls and drops away, or is removed.

The mucus of the mouth, when separated from the more fluid portions of the saliva, is just as strong a cementing agent as that of the nostrils, and holds the particles of food, dead epithelial cells and tartar into a mass or layer, covering the rough surface of the tongue, also cementing the coating to the slanting, filiform processes, and to the uneven surface. Under this layer the mucus is continually secreted, and the desquamation of epithelium goes on; thus the layer is continuously added to from below as well as from above. The upper surface of the layer being constantly wet has no opportunity to become dry and break up into patches as in the nose. In persistent mouth-breathing it may occur, or portions of the coating may be removed mechanically, producing what is called "patchy tongue." Mouth-breathing rapidly drives the water from the saliva, leaving the mucus and causing it to stick the closer and make the layer thicker and more persistent.

Such systemic disorders as tend to produce fever have their effect upon the mucous membrane, among the first of which is the "dry stage." In this the mucus is thicker, less abundant and dries quicker. This is as true of the dorsum of the tongue as of any other mucous membrane, hence the coating is usually pronounced and well formed by the time the physician is called to see the patient.

The color of the coating is largely affected by the incorporation of blood from different parts of the mouth, most frequently from bleeding gums, a condition found in a large percentage of people at all times, or it may be colored from many sources as cited, and not unfrequently from bacteria. Miller has cultivated a number of chromatic mouth-bacteria.

In addition to personal observation the foregoing would seen strong evidence to convince one that the coatings of the tongue are from local causes, but may be favored or increased by febrile conditions which precede or accompany almost every bodily ailment. Lack of cleanliness and mouth-breathing are undoubted and prolific causes.

The danger from unclean tongues and mouths containing decayed teeth and diseased gums is graphically set forth by Miller. He says: "From a neglected mouth, such as repeatedly comes under the observation of dentists, enormous quantities of bacteria must reach the intestinal tract, in spite of the sterilization of food. In a very unclean mouth examined for this purpose I estimated by culture methods the number of cultivatable bacteria at 1,140,000,000; many of them were doubtless carried to the stomach during every meal, to be replaced by others developed between meals and overnight."

Von Kaczorowiski proves clearly enough that the microorganisms in an unclean mouth, quite independent of those introduced with the food and drink, suffice to produce intense fermentative processes, chronic dyspepsia, etc.

Even with decayed teeth and diseased germs to breed bacteria in great numbers, the dorsum of the tongue still presents the largest surface for their growth; and if it is not cleaned once or twice a day (which practically no one does), it is one of the greatest of all places in the mouth for breeding bacteria.

The mucus which cements the layer of sordes upon the tongue and lips is not soluble in water, ether, alcohol, chloroform, or dilute mineral acids, but is soluble in alkaline solutions, and since nearly all of our food is either acid or neutral, and not one in a thousand thinks of scrubbing the tongue as a matter of cleanliness and protection, it certainly is a source of danger and infection, and an undoubted condition for perpetuating disease, especially with invalids.

In order to test the solubility of mucus in alkaline solutions, try scrubbing the tongue with a toothbrush filled with powdered biborate or bicarbonate of soda and notice how the coat disappears. (Biborate is the least disagreeable.) Protrude the tongue and scrub it from back to front until the coating is removed. When the tongue is to be examined for diagnostic purposes this should be done so that the real color and condition can be examined. Then the diagnostic features will be visible and of undoubted value. The use of the brush is much better than to scrape the tongue with a hard instrument. Ordinary tooth-powders are not satisfactory because the finely pulverized chalk or other earthy matter remains on the tongue like food and dead epithelium, and the real condition and color of the surface is still unexposed for inspection.

Coarse powdered borax or cornmeal, or the two mixed, form a coarse detergent powder very efficient for this purpose, as well as for cleaning the teeth and gums.

Animals keep deposits from the tongue by its use as a prehensile organ, and by licking their bodies and other substances. Then the saliva of animals in their native state is decidedly alkaline in reaction, and keeps the mucus dissolved much better than does the human saliva. The latter is either acid or very weak in alkaline reaction, a condition accompanying civilized life, and may be found in animals kept as pets or in confinement and fed upon prepared food.

A clean mouth undoubtedly prevents much fermentative and putrefactive indigestion, not to mention its comfort and prevention of tooth decay and diseased gums. There is probably no way of estimating the great immunity brought about by keeping the mouth and all it contains perfectly clean. As a prophylactic measure no physician can afford to neglect it, either for himself or his patients.—*Jour. Am. Med. Assn., July, 1901.*

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TREATMENT OF CERTAIN ORAL EXPRESSIONS COMMONLY DESIGNATED PYORRHEA ALVEOLARIS. By George F. Eames, M.D., Boston. Read before the New York Institute of Stomatology, May 8, 1901. The call of the committee is for remarks on treatment only, but it would seem to be of the greatest practical usefulness if your committee would bring to a meeting of the institute three or more patients illustrating as many varieties of pyorrhea, and have every member see the patients for himself. These patients should be well marked—not hopeless—and referred to some member for treatment, and when this is finished or carried to a certain point a detailed report may then be given to the institute, the patient again presenting for inspection by the members. In no other way can you all have the same mental picture of the condition under discussion; therefore in no other way can you talk intelligently about it.

Prophylaxis is all-important; indeed, in many cases it is absolutely essential to the salvation of the teeth; the term is a broad one and should include every known means and every possible effort to prevent disease. You are familiar with the suggestion of Dr. D. D. Smith as to prophylaxis; the writer is in hearty accord with all that he is doing is this direction, and carries out the treatment as

suggested by him, modifying or adding to it as the case may seem to demand. Dr. Smith argues that there is an increased deposition of tooth-material consequent upon the stimulation or irritation produced by rubbing the surface of the teeth with stick and pumice. Obviously, on first thought it would seem well to select only those cases for this treatment in which the teeth need the tissue-building process, and not those which have already been over-stimulated from other causes, such as abrasion, erosion and calcareous deposits. But these cases necessitate not only the removal of all deposits but the polishing process as well, and it seems fair to presume that this necessary treatment does not cause increased hypercementosis or intradentinal deposit, but that the gentle massage applied to the surface of the teeth may, after the removal of irritating causes, bring about a cessation of dentinal or cemental development and an absorption of any soft tissue overgrowth which may exist.

My usual method of procedure in all cases is, first, to spray the mouth with a warm antiseptic solution, using compressed air; this quickly removes any infectious material and enables one to make a better examination. In all the varieties of this disease, however slight or however great the amount of deposit, this and all other foreign material acting as an irritant are thoroughly removed. If there is a considerable amount of deposit, and the gums are especially sensitive, an attempt is made to remove a portion of it at the first sitting, as it seems idle to expect any material reduction of the inflammation until this is done. At the next sitting, the swelling and tenderness being usually reduced, a thorough removal of the deposit may be made.

As a local anesthetic a five per cent solution of the oleate of cocain has failed in my hands to accomplish the desired result. A four per cent aqueous solution, however, is effective, and the chloroformic mixture suggested by Dr. Cravens gives still better results. A napkin or its equivalent is placed so as to protect the parts and check the salivary flow, the pocket is made dry, and the cocain is either injected or applied by means of floss silk or small ropes of cotton placed at the bottom of the pocket and allowed to remain from three to five minutes, while some other part is being treated.

For the removal of the deposit I have devised certain forms of instruments which I will pass around. Very few of those on the market are available for my use. The deposit and all other diseased

tissues being removed, the root in suitable cases is polished with orange-wood stick and pumice. During the operation of removing the deposit the instrument is dipped in a bath containing carbolic acid or other antiseptic solution every time it is removed from the mouth, and the pockets are frequently washed with some antiseptic solution, usually hydrogen peroxid.

Regarding methods of removing the deposit, no one can tell another exactly how he should operate or what shape of instrument he should use to get the best results. I believe that each practitioner will achieve his greatest success by following the method and using the particular instrument which he finds adapted to his own individuality, but this will not prevent him from receiving much benefit from suggestions both as to methods and as to instruments.

When the pockets have been thoroughly cleansed and the accessible portion of the root polished a mouth-bath is given. The instruments which I use for this purpose are connected with hot and cold water faucets by the ordinary tubing, with the exception of a relief cock for the purpose of testing the temperature of the water and for turning it on and off from the mouth. The water is made as hot as can well be borne in the mouth, and the flushing process is maintained for about three minutes. Following the mouth-bath the antiseptic paste is injected into the pocket by means of the syringe. The needle is gently pushed to the bottom of the pocket and the screw turned; the plastic material is forced out until it appears at the margin of the gum. A hypodermic needle attached to the syringe may be carried through the gum to inaccessible pockets when necessary.

The object of the plastic preparation is obvious. It is of such a degree of plasticity that in those large pockets which do not perfectly fill with blood-clots it keeps the pockets free from infection, is soothing to the tissues and remains for a long time. In shallow pockets and spaces between the teeth I have found that this material can be placed very effectively with the ball of the finger. The prescription for this preparation is as follows: Vaselin, one ounce; white wax, a half-ounce; hydronapthol or aristol, fifteen grains; menthol, three grains.

The next step in the treatment is the application of a remedy recommended by Dr. E. A. Bogue. It is prepared by dissolving zinc sulphate to saturation in cold water; next put one ounce of

potassium iodid in two ounces of water, adding as much iodin in crystals as it will take up; then take equal parts of the two solutions and put them together. This solution has many excellent properties, and I often use it at the beginning of treatment instead of cocain. Whatever the part played by bacteria, the treatment is intended to combat their growth as well as their effect.

Massage has long been recognized as an effective means of bringing about an absorption of overgrown tissue, and in those spongy and enlarged conditions of the gum-tissue may be employed to advantage. The patient is directed to smear the ends of two or three fingers with vaselin one ounce and menthol two grains, and rub the gums surrounding all the teeth for five minutes twice daily. In addition to the ordinary bristle tooth-brush of the best shape at command I have adopted a brush with rubber bristles for the purpose of brushing the teeth, and especially the gums. The rubber brush appeals to me as having a better effect on the soft tissues, and it is my belief that the patient is more likely to use it on the gums than the brush with hair bristles.

The importance of correcting malocclusion, of supporting loose teeth by fixation, and of inserting bridges between progressively inclining teeth need hardly be emphasized.

The replantation of teeth around which the disease has progressed to a great extent offers its temptations. It savors of clean surgical work and there is a good prospect of bettering the condition of the tooth, but we have no assurance of permanency. Replantation is usually delayed until the disease is advanced beyond a hopeful prognosis, it is true, but under much better conditions the majority of teeth are lost at the end of twelve or fifteen years. In other words, when a tooth is so slightly affected by this disease as to offer good hopes in replantation we may well consider it a promising case under the ordinary treatment *in situ*. Replantation has its place, however, for in advanced cases the usefulness of a tooth may often be prolonged by replantation and fixation to another tooth. Mouth-breathing undoubtedly has always a deleterious influence, and especially in pyorrheal case; the remedy for this trouble should be applied. Teeth having devitalized pulps should certainly receive treatment.

The thorough sanitation of the oral cavity brought about in the treatment of pyorrhea has more than a local effect, for the swallow-

ing of infectious material can do nothing but undermine the general health, and this in turn reacts locally in the mouth. We are thus imperceptibly led to consider the relation of constitutional conditions to local ones as manifested in the mouth. It is fair to assume that many persons have lived the allotted time of life, although having an inherited predisposition to tuberculosis, simply because a wisely selected mode of living was sufficient to prevent a local outbreak. Likewise it is also fair to assume that an inherited or an acquired predisposition, with a tendency to a local expression in the mouth in some forms of so-called pyorrhea, may be kept from doing serious damage to the oral tissues by thorough local and constitutional treatment, and it pays to do this, even though it be at the price of "eternal vigilance."

We may institute such thorough local treatment, thus removing all the weak or susceptible points, that the constitutional factor cannot show itself in any of the oral tissues; but the most thorough and scientific constitutional treatment cannot effect a cure while there are filth pockets existing in the mouth. Therefore a cessation of symptoms is possible by means of intelligent local treatment, but not possible by the most thorough constitutional treatment if local treatment is neglected. In all cases which do not yield to local treatment an examination of the saliva, blood and urine is made, supplementing, of course, a general examination of the body.

In acute cases to which the term phagedenic pericementitis is applied, and in which there is severe pain, with swelling and looseness of the tooth, I have invariably found rheumatic symptoms. In these cases only the mildest local treatment is applied, consisting of antiseptic injections and washes, and pronounced general treatment calculated to raise the alkalinity of the blood and to eliminate effete products is adopted.

There are many other cases presenting with pain and tenderness in the region of the roots of the teeth for which no local cause can be assigned. Such cases have always responded to constitutional treatment. In all these cases there have been swollen joints, neuralgia and other symptoms of uric acid poisoning. In speaking of uric acid I do not mean to convey the impression that uric acid always acts as a poison, for, indeed, it exists in the blood normally in a small quantity. A brief allusion to the patient who has come

before you may best illustrate this point. This patient presented about a month ago with turbid and swollen gums containing pus, undoubtedly due to the large light or yellow-colored salivary deposit. He complained of a very disagreeable taste in the mouth; otherwise he claimed to be in perfect health; no constitutional derangement could be detected from a most careful physical examination. Having so far as possible eliminated the local causes, with the result of improving the condition of the gums and checking the flow of pus, but not the deposition of lime-salts about the teeth, an analysis of the saliva, urine and blood was made. The reaction of the saliva was alkaline; specific gravity, 1006. Total alkalinity equalled 0.0351 per cent Na_2Co_3. According to the few tables in existence the normal saliva has an alkalinity of about 0.08 per cent Na_2Co_3, with a specific gravity of 1003 to 1006. The saliva in this case therefore contained a large amount of solids and had a low alkalinity. These facts tended to confirm the supposition indicated by the pathological condition found in the mouth, viz: that the saliva contained an excessive amount of calcium salts, and though the low alkalinity might serve as a partial cause for the separation of these salts from the solution, this cannot be definitely settled until the normal variation of the lime contents of the saliva has been determined. The supposition may be held, therefore, that there is in this case either an excess of lime or an abnormal condition favoring deposit. The facts seem to suggest an excess of lime-salts rather than an abnormal condition favoring deposit. The examination of the blood in this case showed it to be practically normal. The urine was of a strongly acid reaction, containing calcic oxalate crystals, giving evidence of a storing up in the body of the normal products of metabolism, especially the xanthin or uric acid group of products. The totals of urea, chlorin, phosphoric acid and uric acid were all lower than normal. Treatment will be given to increase the elimination of solids, especially of the uric acid and allied substances; for example, phosphate of soda, fifteen grains t. i. d., and bicarbonate of soda, a salt-spoonful twice daily. The oxaluria gives evidence also probably of the same faulty metabolic process and would yield to the same treatment. The diet should be regulated so as to avoid tomatoes, onions and an excess of starchy or sweet foods, and the patient should drink three pints of distilled water daily.—*International, Sept., 1901.*

SECRETIONS OF THE MOUTH DURING PREGNANCY. By I. C. Edington, D.D.S., Rochester, N. Y. Read before the Seventh District Dental Society of New York State, May, 1901. We have assumed a great deal in regard to the secretions of the mouth during pregnancy. The general impression prevails that the saliva is acid during this period, probably because we see such rapid caries of the teeth in some patients. The old saying is, "For every child a tooth," and we accept the condition and do the best we can with the disease, without looking for the cause; and, as the theory is accepted that it is acid which starts the decay, our ground seems tenable. If the saliva *is* acid during pregnancy, *why*, and where does the acid come from? Is the saliva acid when it is emptied into the buccal cavity, or is the acid produced elsewhere? How does the acid get into the mouth, if it is there? Do the teeth really decay more rapidly during pregnancy, or are they more liable to caries during that period?

I think it best to look briefly for comparison at the normal condition of some of the secretions and the blood. I include the latter because it is from it we get our secretions. The process of *secretion* consists in the separation of materials from the blood, which are either to be again utilized to fulfill some special purpose in the economy or are to be removed from the body as excrementitious matter. In the former case they constitute the secretions, in the latter the excretions. The secretions are derived from the *nutritive* principles of the blood, and are elaborated by special organs—gastric glands, mammary glands, salivary glands, etc. I will mention a few, with their reaction: *Mucus*, alkaline; *saliva*, alkaline; *gastric juice*, acid. There are about a dozen different secretions, but we will deal chiefly with those mentioned.

The blood is a nutritive fluid, containing all the necessary elements for the repair of the tissues of the body. It is a heterogeneous, opaque, red fluid, having an alkaline reaction and saline taste. The alkalinity of the blood depends upon the presence of alkaline sodium phosphates—HNa_2, PO_4. Of the different elements entering into its composition water is present in the largest percentage and acts as a solvent. Albumin is the nutritive principle. The saline constituents aid the process of osmosis, give alkalinity, promote the absorption of carbonic acid from the tissues, and hold other substances in solution, the most important of which are the

sodium and potassium chlorids and the calcium and magnesium phosphates.

As the blood furnishes the supply for the secretions, the question arises, Does it remain alkaline during pregnancy? This seems important. As there is a greater flow of saliva during this period, if the source were acid we could account for acid saliva. "*Acidity*, literally the quality of being sour, is a term used in medicine to denote either (1) a quality of the normally acid fluids of the body; (2) a change in their character; (3) the alteration of a normally alkaline to that of an acid secretion. It may, then, be either physiological or pathological. We have several well-marked instances of the former in the gastric juice, the urine, the cutaneous excretions and in the muciparous crypts of the mouth and vagina. The normal acidity of the cutaneous excretions is owing to the presence of some of the fatty acids of the acetic series. The acids of the buccal and vaginal mucous crypts are unknown." The blood during life is *always* alkaline, but its *degree* of alkalinity may vary, being dependent upon (1) the amount of acid formed; (2) the amount of oxidizable matter furnished, and (3) the rate of elimination. The oxidation products of the foods and tissues form the principal source of the acids in the system.

In early pregnancy the abundant flow of saliva will have to do with the decay of the teeth. If the patient be given to languor there would be a lack of oxidation, hence more acid. As the whole economy is undergoing a change physiologically, there being a loss of red blood corpuscles and albumin--the former as oxygen-carriers to the tissues—with a greater amount of work for the heart, together with the liability to constipation which is very common, and therefore a lack of elimination, it is not to be wondered at if the patient feels languid.

Nausea and vomiting of pregnancy are due to spasmodic contraction of the stomach and diaphragm. The increased appetite in answer to the want of more nutrition, and the consequent overloading of the stomach, often brings on indigestion and sour stomach, with nausea and vomiting. However, I do not believe they have any direct effect on the teeth, as the acid thus brought in contact with them would naturally be rinsed away in washing the unpleasant taste from the mouth.

When ossification first begins there is a change in the blood, due

to absorption of lime from it to form the bone of the fetus. It is said not to affect the oral secretions. The reaction in some cases I have been enabled to record has been slightly acid in the morning and normal the remainder of the day.

I cannot look upon pregnancy as anything but the natural way of reproduction, and as such it must be normal; and if normal it cannot be pathological; and if not pathological, how can the secretions be perverted to the degree of destroying useful organs? It is true we see many cases which seem to point to the pregnant condition as the cause; and I think it is, but indirectly. Often we see persons fall from a bicycle, and nine times out of ten they will get out the wrench and try to fix the wheel, when the trouble is not with it but with the rider. So with tooth-decay during pregnancy. We lay the blame to the fact that the patient is pregnant, and console ourselves with the thought that she will be better when that period is passed; but from observation I believe the system may become overcharged with acid in virginity as well as in pregnancy. We should not lose sight of the fact that many who are pregnant are not in a normal condition. During the past six months I have talked with many who are mothers, and in the large majority of cases found no symptoms that would cause me to think pregnancy had any deleterious effect on the secretions of the oral cavity, while the pregnant condition did in some cases cause an aversion to tooth-powder, and in some a special sensitiveness of the teeth, and therefore a lack of brushing.

Litch says, in writing of the predisposition to caries, "Why is it that pregnant women become temporarily more susceptible to caries? Certainly not from any change in the structure of the teeth themselves, rendering their lime-salts more easy of solution by an acid. Of all the tissues of the body, the teeth are least prone to structural changes consequent upon variations in nutrition, and therefore are least liable to temporary susceptibility to disease on this account." I would call your special attention to "Morbid Conditions of the Fluids of the Mouth," by Dr. G. V. Black, page 774, Vol. 1, "American System of Dentistry."

So far as any acid in the secretions of the mouth is concerned, and its effect on the enamel of the teeth during the period of pregnancy, I think it improbable that it could be strong enough to play such havoc as we generally suppose in so short a time. And, fur-

ther, that the decay we observe at that time is really begun in many cases before conception. I think the secretions are influenced to some extent, in some cases, by pregnancy, owing largely to the manner of life and habits in this and past generations. We find patients very lax in the use of the tooth-brush, and the almost universal habit of cleansing the teeth in the morning "because of the bad taste in the mouth." And why should it not be bad, when the interspaces are allowed to carry the accumulation of twelve to eighteen hours, with a suspension of nature's tooth-wash, the alkaline saliva, during the last six to eight hours?

I think the same influence will produce the same results in the system, regardless of virginity or pregnancy. I have in mind several cases which have come under my observation where the whole alimentary canal was deranged, and the most rapid kind of caries was present in the mouth, which seemed to defy all local treatment; but when the proper systemic treatment was employed marked improvement followed, and this in virgins. From all I could discover, the local conditions were the same as I had observed in pregnancy. A word in regard to the treatment of such cases, where this very white decay exists. We may expect a greater or less derangement of the alimentary canal, so the general health should be improved and the system toned up, A local treatment may be employed, as mouth-washes, milk of magnesia, and temporary fillings. As to the pregnant condition, a general hygienic course should be the rule.—*Cosmos, Aug., 1901.*

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SUPPRESSED THIRD MOLAR. By Arthur S. Underwood, London. The following case presents some very unusual features. About two years ago a lady, aged 25, consulted me. She had been suffering for some time from enlarged glands underneath the right mandible. From time to time the swelling had been quite an inconvenience and a disfigurement. Various opinions had been obtained but no treatment had given any good result, and when Dr. Pritchard was asked if the ear played any part in the trouble he decided that it did not, but suggested that the teeth might do so.

On examining the mouth I found the first and second molars in place, also the first bicuspid, but neither the second bicuspid nor the third molar. On the other side the second bicuspid and third molars were in place. Underneath the first molar (which was filled

with amalgam and slightly loose) was a large swelling apparently containing pus, also some enlarged glands. I pointed out the absence of the bicuspid and third molar, and suggested that the former must have been extracted. I was assured that this was not the case, and that only the temporary molar had been removed. There was a history of suppression of the second bicuspid on that side in the mother, and lastly a younger brother was brought to me with the second right lower bicuspid suppressed and erupting low down, with its crown pointing inwards to the tongue (this tooth I removed.) I concluded that, as the dentist had stated that the bicuspid had not been removed, and as it was suppressed in two other members of the family, there was every probability of the present trouble depending upon suppression of the bicuspid, complicated with an abscess connected with the molar. I advised removal of the diseased molar as a first step, hoping thereby to lead to the discovery of the hidden bicuspid. This was done and the abscess disappeared, and the gland irritation almost subsided. I replaced the missing molar with a small side plate, hoping by its pressure to induce the eruption of the bicuspid, but I could find no trace of it with the probe. So far the history, the symptoms and the result of treatment seemed all to point to a suppressed bicuspid, which, however, had, as will be shown, nothing to do with the matter.

Some months later the gland trouble recurred and some glands were removed. This was followed by a short interval of peace, and then a fresh glandular disturbance showed that the cause was still operating. At this stage I advised a skiagram of the mandible, and this was beautifully executed. The patient was first examined with the screen, and we found that it was impossible to get a satisfactory picture unless the left mandible were kept well out of the way of the ray. This was done by tilting the head so that the ray passed under the left mandible and pierced the right only; the resulting foreshortening made the suppressed tooth appear nearer the surface than was really the case. The skiagram showed to my surprise no second bicuspid, but a suppressed third molar pressing against the deep portion of the second molar, and connected by a plain band of inflammatory tissue with the glandular enlargement. It then transpired that the dentist *had* removed the bicuspid when extracting the temporary teeth.

We now decided to attempt the removal of the buried tooth, and as a preliminary the second molar was extracted and the crown of the other bared as much as possible. The socket was kept open for a fortnight in hopes of getting a better view of things, but the third molar proved to be imbedded in dense bone, and there was nothing for it but removal, as relief was urgently demanded. The patient was placed under ether, and all attempts to force any instrument down beside the tooth having failed, I at last resorted to a heavy leaden mallet and with it hammered an elevator down under the lower surface. I then hammered another elevator along between the upper or posterior surface of the tooth and the bone, and on the inner and outer side; still no movement could be obtained. I then removed the elevators, and placing the beaks of a pair of upper stump forceps in the wounds so made, hammered them on to the tooth; after much hammering I at last was able to produce a slight movement, and finally, after the patient had been kept under ether for forty-five minutes, the tooth yielded and came out.

There was surprisingly little afterdisturbance. The patient was kept quiet, and the wound treated for some days. There was a trifling rise of temperature on the evening of the second day, but the wound, which was deep in the bone, healed speedily from the bottom, the irritation disappeared, and the only trouble was a patch of anesthesia in front of the mental foramen to the middle line, which has now recovered.—*Jour. Brit. Dent. Assn., July, 1901.*

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ADENOIDS AND MALFORMATIONS. By Fannie E. Hoopes, M.D., D.D.S. Read at the union meeting of the District of Columbia Dental Society and the Maryland State Dental Association, May 16, 1901. "The chronic enlargement of tonsillar tissue is an affection of great importance, and may influence in an extraordinary way the mental and bodily development of children," says no less an authority than Dr. Osler; and the condition is too frequently overlooked by the general practitioner.

When adenoids are present the most direct effects are mouth-breathing, deformity of the thorax, and change in facial expression; the characteristic expression being vacant, dull, heavy and apathetic, in part due to the fact that the mouth is habitually kept open. The lips are thick, the nasal orifices small and pinched-in looking; in the mouth the superior dental arch is narrowed and the roof con-

siderably raised. The chest deformities are liable to be mistaken for rickets, the commonest cause of such deformities in this country. The anterior ribs are prominent; the sternum is angulated forward at the gladiolo-manubrial junction and grooved at the gladiolo-xiphoid junction; saucer-shaped depressions are found at the lower costal cartilage; the lower angle of the scapula projects. Headache and listlessness occur; there is inability to pronounce *m* and *n*, nasal consonants. Block lays stress on the association of mouth-breathing and stuttering. In addition to these physical effects there is usually a marked mental deterioration. The fetor of the breath is generally marked; the hearing is impaired, owing to pressure or extension of inflammation along the Eustachian tube. There may be no great enlargement of the tonsils and nothing apparent at the back of the throat, yet the naso-pharynx may be completely blocked with adenoid vegetations.

By digital examination in children, the growths can be felt as small, flat bodies, or if extensive, as velvety, grape-like papillomota. Adenoids which spring from the vault of the pharynx vary in size from that of a small pea to an almond; they may be sessile, with broad bases, or pedunculated; they are reddish in color, of moderate firmness, and contain many blood vessels. They are abundant as a rule over the vault in a line with the fossa of the Eustachian tube, but the growth may be posterior to the fossa—namely, in the depression known as the fossa of Rosenmüller or upon parts which are parallel to the posterior wall of the pharynx. They appear to spring in the main from the mucous membrane covering the localities where connective tissue falls into the inequalities of the base of the skull. (Harrison Allen.)

Hypertrophy of tonsillar structure is occasionally congenital, or it may follow diphtheria and the eruptive fevers. The frequency with which it occurs has been variously stated. Sixty cases were found by Chappelle in an examination of two thousand children. It is usually found in children or young adults, being rare after forty years of age. The mean age is sometimes given as from five to seven years. Cuvillier of Paris treated 2785 children; 569 with simple hypertrophy of tonsils, 1156 with hypertrophy with adenoids. In infants such growths are indicated by inability to nurse properly; a desire for frequent change of position; the open mouth during sleep, with snoring and enlarged faucial tonsils.

In cases of this disease the tonsils present a condition of chronic hypertrophy, due to multiplication of the constituents of the glands; lymphoid tissue may be chiefly involved without much development of the stroma. In other instances the fibrous matrix is increased, and the organ is harder, smaller and firmer. In hypertrophy when there is inflammation the leucocytes whose province it is to act as scavengers cannot do their work, and the thickening of the tissue harbors organisms.

No race of people is found to be free from this trouble. It is prevalent in all parts of Europe and America, and climate seems to exert little if any influence over it. Nor is it a modern disease; an inspection of ancient paintings and sculpture will reveal occasional peculiarities indicative of adenoids. Marcus Antonius, for one, must have been a sufferer in his childhood.

It has been stated by many writers, and it seems to be the general impression among rhinologists, that the high palatal arch and the long, narrow face are directly connected, either as cause or effect, with the occurrence in children of naso-pharyngeal lymphoid hypertrophy. Grosheintz's deductions are as follows: "1. With high, narrow alveolar arch (*hypsistaphylia*) is usually associated a general narrowing of the upper face (*lepto-prosopia*). 2. Narrow nasal passages (*leptorrhinia*) and narrow orbits belong as a rule to the skull formation having high-arched palates. 3. Hypsistaphylia (high uvula) depends as a rule upon congenital racial characteristics of the skull, and not upon later extrauterine influence of nasal stenosis." While adenoids are not conceded to be the cause of narrow jaws, yet they produce symptoms which bring them under the observation of physicians.

Meiser's measurements. The index of the upper face he obtains by measuring from the fronto-nasal suture to the alveolar border of the superior maxilla in order to get the length, and by measuring the distance between the malar eminences in order to get the breadth; then the length multiplied by 100 and divided by the breadth gives the index required. By a large number of such measurements he established the fact that in German Switzerland fifty-four per cent of all people have an index thus obtained of fifty or less. These he calls cases of *chamæ prosopia* (wide nasal fossa, broad face), while in sixty-four per cent the index is over fifty. These he calls *lepto prosopia* (narrow face).

Children are often of peculiar disposition when afflicted with adenoids, which are the cause of many morbid conditions, like spasmodic asthma, cough, vertigo, gastric and cardiac symptoms, which are attributed to nasal irritation. The secondary effects, as a result of nasal obstruction, are seen in accompanying pharyngitis, bronchitis, emphysema, diseases of the eye and ear. We have clinical reports of cases of tinnitus, asthma, and suppurative otitis media relieved by the reestablishment of nasal respiration. In view of Dr. Fränkel's anthropometric investigation, it would seem proper to accept the deduction that the shape of the hard palate has more direct connection with the type of skull (lepto-prosopic) than it does as a sequence of post-nasal adenoids.

Long-headed (dolicho-cephalic) people—breadth of the head being less than seventy-five per cent of its length—have narrow nasal passages. Alkan (*Archiv für Laryngologie*, Vol. X, No. 3) seems to refute Fränkel. He asserts that the skull lengthens during the growing period of life until there is not much difference in height and breadth. Antero-posterior measurements of the hard palate increase with age much more than breadth measurements. Alkan accepts the theory that the lateral pressure of the cheeks and their muscular fiber drag on the external border of the alveolar arch when the mouth is habitually open on account of nasal obstruction, and that the retraction of the upper lip, by taking the pressure off the superior incisors, induces projecting lower jaw (prognathism.)

The fact that the pathological condition of lymphoid hypertrophy is much more common with the high-arched palate than with the normal, which is denied by Fränkel, is plausibly explained by the assertion that the conditions have a common factor. While many are inclined to doubt the constant relation of cause and effect from adenoids to narrow jaw, few will deny their frequent coincidence (although long, narrow high arch does sometimes exist without mouth-breathing.) In conclusion, Alkan declares that the shape of the hard palate, so far as its height is concerned, has nothing to do with the configuration of the skull. (J. Wright, Brooklyn.)

Quoting Dr. John Mackensie, the eminent laryngologist of our city, "Deformity of the jaw as a result of nasal and retronasal obstruction in children always affects the upper not the lower jaw, and varies according to its occurrence before or after the beginning of the second dentition. In the first instance there is simply a

general dwarfing of the whole jaw, a cupola-shaped high palate, and an elliptical alveolar process. After the second normal dentition the alveolar processes come nearer each other more and more, making the jaw longer and narrower; the dome of the palate becomes thereby much higher and narrower at the sides. The anterior end of the process loses its perpendicular position; is thrown forward, and forms an acute angle in the middle line. This throws the central incisors and later the other teeth into positions with which all are familiar. This latter deformity often causes a diminution in the vertical diameter of the nasal passages with bony deformity—most commonly of the septum. It is a curious fact that centuries ago Morgagni called attention to this arching of the palate, and ascribed to it the chief *rôle* in the production of the deflection of the septum."

In addition to the disfigurement caused by the irregularity of the teeth, the malocclusion brings about malnutrition, for children so affected cannot masticate their food thoroughly. Owing to nasal obstruction secretions are constantly dropping which affect taste, causing lack of appetite. The air (on account of the mouth-breathing) is not warmed and filtered by nature's methods; the blood in consequence is not properly oxygenated. In fact, metabolism is interfered with in every way, with the result of ill-nourished, anemic children, often with defective mentality.—*Cosmos*, *July*, *1901*.

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CONTINUED ANESTHESIA WITH NITROUS OXID, UNDER DEFINITE PRESSURE. By W. A. Heckard, D.D.S., Indianapolis. Read before Tri-State Dental Meeting, at Indianapolis, June, 1901. Pure nitrous oxid, when inhaled without oxygen or air, first produces sleep. Continued it causes anesthesia and finally asphyxia. At this latter stage it becomes dangerous. While there are some who deny that asphyxia is at last produced, the fact that oxygen will prevent the occurrence of the symptoms would seem to prove that the condition is properly called asphyxia. By mixing a small percentage of oxygen with the nitrous oxid, cyanosis, jerky and irregular breathing, deep stertor and movements of the muscular system are eliminated. The addition of air or oxygen renders nitrous oxid anesthesia agreeable to children, anemics, debilitated persons, patients with enlarged tonsils and lung affections, those advanced in years, and those who claim to have always

before had unpleasant sensations from the use of nitrous oxid alone. All plans which depend upon the nares as an avenue for the introduction of the gas are open to serious objections. A vast number of people are mouth-breathers, due to catarrhal affections, hay fever, hypertrophied turbinates, or nasal passages filled with polyps. Those who are subject to "bad colds in the head" are frequently unable to breathe through the nose. If the nasal passages are so nearly closed that breathing through them is difficult, they should not be further irritated by passing a tube through them. Furthermore, it is not infrequent that the nasal passages will spasmodically close by reflex action during anesthesia. Therefore, the nose is not the ideal avenue for introducing gas. The objection is met by using the mouth, this method also admits of the mixing of atmosphere with the anesthetic.

Having experimented with several styles of nozzles with which to spray the gas into the mouth, I have found that the most convenient are the ones in which the nozzle and mouth prop are combined. They are all so constructed that they can be taken apart and sterilized. When extracting is to be done, the hook nozzle will be found to fit any case, while for operating on sensitive dentin or for removing live pulps, the rubber cork and nozzle combination is better. It can be fitted to any mouth, no matter how irregular the teeth. The holes through which the gas passes are cut in such a manner that the gas is thrown out in a flat, flame-like spray, similar to the butterfly flame of a gas burner.

My apparatus as at present constructed consists of a metallic tank, two gauges, a pressure regulator, some nozzles and a nose clamp. The tank or receiver is of fifteen gallons capacity. Small receivers do not afford an opportunity to secure an even supply of gas under definite pressure. Without a definite pressure, capable of being regulated by the operator, sustained perfect anesthesia is impossible. Connected to the receiver are two one-hundred-gallon cylinders of nitrous oxid liquid gas for refilling the receiver. A pressure gauge indicates the amount of gas in the receiver. When a hundred-gallon cylinder of gas is allowed to flow into the receiver, the gauge will show a pressure of one hundred and twenty pounds to the square inch, and is now *compressed* gas instead of *liquid* gas.

Anesthetization is begun with a low pressure, which is gradually increased as the patient passes under the influence of the gas.

When the patient is sufficiently anesthetized, the regulator may remain set at any pressure necessary to maintain any desired stage of anesthesia for an indefinite period, leaving the operator with both hands free to work, and the patient with the mouth open. It is desirable during some operations to have the patient but partially anesthetized; this can be satisfactorily accomplished by a turn up or down of the regulator, which increases or diminishes the volume of gas.

In this connection I may state that the rapid expansion of the gas as it flows from the cylinder into the receiver renders the gas very cold, but if the receiver is filled some time before the operation the compressed gas will be warmed by the temperature of the room, a decided advantage over injecting cold gas into the nose and throat. Cold gas may cause inflammation of the mucous membrane lining the respiratory tract, or set up a train of symptoms leading to pneumonia. Warm gas acts more quickly than cold, and less of it is needed to produce anesthesia.

The usual preliminary precautions are taken and the patient fitted with the nozzle and prop best adapted for the work in hand. The mouth should be thoroughly cleansed with a good mouth-wash and distilled water, or something equally efficient, by means of a Davidson spray bottle and an air pressure of from thirty to forty pounds. The nozzle and nose clamp are then adjusted and the administration of the gas begun with a pressure of two or three pounds.

The sound of the escaping gas is so slight at first and is so gradually increased as the patient passes under the influence that it is seldom noticed. This is especially true when the mouth has been previously sprayed, as the patient has become accustomed to the sound. If it is desired to decrease the amount of atmosphere being inhaled, and to hasten anesthesia, a rubber cloth, a napkin, or even the hand may be used to partially close the buccal orifice. The amount of atmosphere will be regulated by the appearance and condition of the patient. This can be determined only by experience.

If the operation is the extraction of a single tooth, the assistant may shut off the gas so soon as anesthesia is complete. If the operation is one that will require some time to complete, the desired stage of anesthesia is readily maintained by increasing or decreasing the supply of gas to meet the necessities of the occasion. Sen-

sitive dentin may be excavated, live pulps extracted, the alveolar process trephined or other operations performed with perfect satisfaction to both patient and operator. The patient does not struggle or show distress, as is so frequently the case when the face-piece is used. There are no asphyxial symptoms, and recovery is prompt and complete, with no bad after-effects.

* * *

PATHOLOGICAL PROCESSES IN AN UNERUPTED TOOTH. By W. D. Miller, D.D.S., Berlin. Some time ago I obtained through the kindness of Dr. Billings a tooth showing various peculiarities which seem to me worth describing. Dr. Billings inserted a set of teeth for a woman of sixty years who had been toothless for ten years, and had worn full upper and lower dentures during that time. She wore the new set for a year without any inconvenience, but then a sensitive spot appeared on the hard palate, although no swelling or redness could be seen. By scraping the plate at the corresponding place relief was obtained. The sensitiveness returned several times during the following two years, but was cured each time by scraping the plate At the last visit the spot appeared somewhat swollen and red, and on pressure a trace of pus appeared for the first time.

These symptoms led to the discovery and extraction of an unerupted cuspid, which showed the following peculiarities: The very small, normally-shaped tooth showed a circumscribed hypertrophy of the cementum at the end of the root, and the whole root, with the exception of two small points, was covered with the dried-up remains of normal-looking pericementum. Near the apex of the root there was a deposit of olive-green (sanguinary) calculus. This could not have been precipitated from the saliva, as it was separated from the neck of the tooth by an unbroken band of pericementum.

The changes that took place in the crown were very conspicuous. The whole cusp, excepting a small portion, was destroyed, and the cavity formed by the process showed a very rough, jagged surface. At the neck, on the labial surface, there was another deep, oval cavity having the greatest similarity to caries. On the distal surface there was also a large cavity, with sharp, jagged, undermined margins, which had penetrated nearly to the pulp. Besides these large cavities there were several smaller ones on the surface of the enamel. In all these the walls were coated with a substance

of brownish-black color, by which the similarity to caries was all the more increased; indeed, so much so that a number of my colleagues to whom I showed the tooth recognized nothing more than an ordinary case of caries. In reality, however, we had to do with a case of resorption pure and simple, the discoloration of the cavity wall being due solely to dried blood, with which the cavities became filled during extraction. So we have here another case which without careful investigation might easily be mistaken for caries of an unerupted tooth—an error which has often occurred and led to false views concerning the nature of tooth-caries. It is worth noticing that resorption was restricted to the crown of tooth, which may be accounted for by the irritation produced by the pressure of plate upon the tissues immediately covering cusp.—*Cosmos, Aug., 1901.*

* * *

WATER IN FOODS. It is not very generally realized how much water there is in solid food. Certain it is that no natural food is without water, varying in amount from five to ninety-seven per cent, or only three per cent short of pure water itself. Milk, of course, must be taken as the type of a complete food, yet it contains, even straight from the cow, from eighty-seven to eighty-eight per cent. That is to say, more than four-fifths of milk consist of water, and as this is the condition in which it is naturally furnished the inference is that the fats, the sugars, and the proteids were intended to be taken in a diluted state. Indeed, the composition of other foods would teach the same thing, although, paradoxical as it may seem, some solid foods contain more water than does milk. This is especially true of vegetables and fruits. Thus the turnip contains over ninety per cent of water, the cabbage nearly the same amount, and the cucumber and the vegetable marrow about ninety-five per cent; whilst among fruits the strawberry contains nearly ninety per cent of water, the apple eighty-two per cent, and grapes eighty per cent. Even the various meats used as food contain an amount of water far in excess of the amount of solid constituents. Thus, three-fourths of beef and mutton consist of water. The housekeeper perhaps scarcely realizes when consulting the butcher's price-list that three-fourths of the meat are water and are paid for with the rest. Lamb contains less water, namely sixty-four per cent; pork still less, 60.9 per cent, and bacon only 22.3 per cent. It would appear that as the flesh foods increase

in the amount of fat the proportion of water as a rule diminishes. Coming to birds, the flesh of the fowl and duck contains about seventy per cent of water and that of the pigeon seventy-five per cent, while the flesh of the goose contains only thirty-eight per cent, the last being another example of the fat increasing with a corresponding diminution in the proportion of water. Fishes contain from forty to eighty per cent. The egg, one of the most powerful of nutritives, contains 65.5 per cent of water, the white consisting of eighty-six per cent and the yolk of 50.9 per cent. The latter of course is the more nourishing part. As a rule foods containing a small proportion of water are not fit for human consumption until they are cooked, which commonly means reducing them to a digestible state by adding water and boiling or baking, and so when they are actually partaken of they contain a good percentage of water. Wheat flour for example, contains only twelve per cent of water, while bread contains nearly fifty per cent. It would appear to be necessary, therefore, that food should be in a decidedly moist condition before it is fit for use, and thus water plays a *rôle* in food which at first sight perhaps does not seem evident. Bacteria cannot live or act except under a wet environment, and chemical change under absolutely dry conditions is impossible; therefore without moisture life would cease and the great vital processes would come to an end.—*Lancet.*

Psychology of Profanity.—G. T. W. Patrick has made a study of the psychology of profanity, in which he asks and endeavors to answer two questions—first, Why do men swear? and second, Why do they use the words they do? Profanity is defined as the "ejaculatory or exclamatory use of a word or phrase, usually the name of the Deity, or connected in some way with religion or other sacred things having no logical connection with the subject in hand, and indicative of strong feeling, such as anger or disapproval." As regards the subjective effects of profanity, the most striking is that of a pleasant feeling of relief from a painful stress. Some words seem made for special circumstances. "Even men who do not swear can by a sort of inherited instinct appreciate the teleological relation existing between the behavior of a refractory collar-button during the hurried moments of dressing for some evening function and the half-smothered ejaculation of the monosyllable 'damn.' The word seems to have been made for the occasion." In a general way it may be said that the author regards profanity as a reversion to a type of expression comparatively low down in the scale of development of language. The human oath is the analogue of the roar or growl of anger in the lower animals.—*Psychological Review.*

Letters.

DISCLAIMER BY DR. E. O. KINSMAN.

CAMBRIDGE, MASS., Sept. 21, 1901.

To the Dental Profession of the United States,

Be it known that I, Edgar O. Kinsman, D.D.S., of Cambridge, Mass., Secretary of the Massachusetts Dental Society and the Northeastern Dental Association, do hereby declare that the use of my name on the letter-head of St. Luke's Hospital of Niles, Mich., is without my knowledge or consent. I declare it to be an unwarranted use of the same, and make this public declaration to set myself right before the profession and to maintain my honor as an officer of the above-named societies.

(Signed) EDGAR O. KINSMAN.

Commonwealth of Massachusetts, } *ss.*, Suffolk. BOSTON, Sept. 24, 1901.

Personally appeared before me the above-named Edgar O. Kinsman and made oath to the truth of the above statement subscribed to by him—

[Seal.] Before me, WALDO E. BOARDMAN, Notary Public.

To the Editor of the Digest,

MR. EDITOR:—I enclose the above affidavit and respectfully ask you to publish same in the DIGEST. This scheme seems to be a highly questionable deal all the way through, and to my certain knowledge other names on the letter-head are there as mine is, without permission. The names of the "Dental Staff," as printed on the letter-head, are: "A. Dale Covey, Rolla M. Chase, Daniel B. Ingalls, Edgar Osgood Kinsman, Howard R. Weber, M. P. Beecher, Frank A. Godsoe, D. H. Dickerman, Mons C. Christensen, Samuel K. Loder, Wm. W. Ver Valen, Gustave Newman, Chas. D. Allen, Isaac Douglass, Charles D. Beardsley, John B. Coolridge, S. P. Earnest, Marion Holland, Francis H. Chidester, Wm. E. Pilcher, James E. Low." The title D.D.S. is put after each of these, and in addition M.D. after many of them. The residence is not given in a single instance, but the name of some college is printed after each name, and in some cases it is stated that the man is or was a professor in some college. For instance, my name appears as follows—"Edgar Osgood Kinsman, D.D.S., Boston Den-

tal College, Secretary Northwestern Dental Association and Massachusetts Dental Society." The officers of the Hospital are given on the letter-head as follows: "Arthur C. Probert, M.D., D.D.S., L.L.D., Pres. and Treas.: Wm. A. Weiser, M.D., Ph. G., Vice-Pres., College of Physicians and Surgeons of Chicago; G. A. Steele, M S., M.D., Sec'y, Rush Medical College of Chicago; James Madison Huse, D.D.S., M.D., Supt. of Dental Dept., Boston Dental College, Electric Medical College of New York City."

It seems to be the custom of this institution to write a letter on the aforesaid letter-head to prospective customers, and to accompany same with a descriptive circular telling what a fine institution St. Luke's Hospital of Niles is. On the back of this circular are fourteen letters from various individuals expressing their appreciation of the certificates which they seem to have bought from the hospital. Among these signers of testimonial letters are J. M. Huse and Chas. D. Allen, both of whose names appear on the letter-head. An application blank, and a reproduction of the lithographed Hospital diploma are also sent. The diploma is in Latin, so a translation accompanies it. Among those signing the diploma are Steele, Probert, Weiser, Allen, Huse, Weber, whose names appear on the letter-head, and in addition, T. J. Randall, James G. Mensch, Robt. C. Bayly, R. D. Jennings, James E. Stack, John H. Nelson, J. E. Long, Roy St. Clair.

The translation of the diploma or certificate is as follows: "*To all to whom this certificate shall come*, Greeting:

Whereas, since the intelligence of man introduced the historic ages, it has been a laudable custom, and one commended by all men, that those persons who had devoted their lives to Study of the Noble Arts and Sciences, should receive Recognition and Reward and be elevated to high Rank and Degree by their fellow men.

THEREFORE, Impressed with the Usefulness and Power of Commendation, Know All Men by These Presents, that holding ourselves to be well informed of the Good Moral Character, the high Dental, Medical and Surgical Skill and Scientific Attaiments of

JOHN B. COOLRIDGE, DOCTOR OF DENTAL SURGERY,

We have this day in Council Convened, appointed and decreed him a Member of our Staff of Medical and Dental Surgeons, and hereby give, grant and invest him with all the Rights and Privileges appertaining thereto,

IN WITNESS WHEREOF, the Board of Directors of the Hospital have caused this Certificate of Membership to be signed by the Pres-

ident and Secretary of said Board; attested by the other officers, and the Official Corporate Seal of Said Institution to be hereto affixed at Niles, Michigan, this . . . . . day of . . A. D. 190 ."

The letter of invitation to buy is as follows:

NILES, MICH., June 12, 1901.

DEAR DOCTOR.—We inclose you herewith some of our literature for your careful perusal, together with a dentist's application blank for you to fill out and return to us, should you wish to join our dental staff. The many advantages, privileges and financial benefits to be gained by your joining us, are briefly and partially told as follows, *viz:*

1st. We issue, in addition to our certificate, a neat lithograph pocket membership ticket, which we believe, if displayed judiciously, will pay for your ticket many times over during the course of a year. Should you want only our pocket membership ticket alone, it will cost you $2.00; otherwise, it goes free with the certificate of membership.

2nd. We have just received a very costly and ornamental red cross solid gold button from the wholesale jewelers, lettered in circular form: "Staff St. Luke's Hospital," which goes free with our new membership, or if ordered alone, $2.00.

3d. We will pay you a commission of 25 per cent in cash for all surgical operations, and 10 per cent on all medical cases you may send to our hospital for treatment.

4th. Should you wish to consult us at any time regarding difficult cases, we will freely give you whatever assistance and advice we can, and will make microscopical analysis of specimens sent us free of charge.

5th. We charge nothing for nursing patients, day or night, as part of the expense is taken from our nursing fund. We do charge, however, for board and rooms, ranging from $1.50 to $2.00 per day, according to location selected by the patient.

6th. After you have ordered and paid for the certificate of membership, *either in English or Latin*, should you so desire it, and will send us a list of names, not exceeding twelve, including your local newspapers, we will write an individual letter, recommending you to each one of them. Of course these letters of endorsement are optional for you to accept or reject, whichever you see fit.

Now, Doctor, after considering all these strong features, we would ask with all fairness, Do you not not consider it to your financial interests to have your appointment confimed? Kindly let us hear from you as soon as possible, and greatly favor,

Fraternally yours,

ARTHUR C. PROBERT, M.D., D.D.S., President.

The application blanks reads thus:

Attention is called to the fact: That after paying for your Certificate of

Membership there will be no more fees of any kind, no annual dues, no assessments; in fact, it is a life membership.

Dentists' application to be placed on the Staff of St. Luke's Hospital, of Niles, Michigan. [Incorporated under the State Laws of Michigan, 1898.] Capital Stock, $100,000. The Hospital is for the use of the Surgical, Medical and Dental Profession.

To St. Luke's Hospital, Niles, Michigan—Please place my name on your staff as one of the Consulting and Visiting Dental Surgeons to St. Luke's Hospital. Name in full . . . . . City . . . . . State . . . . . Specialty . . . . . Name your College or Dental Examining Board . . . . . Certificate of Membership in English or Latin? . . . . . Year of graduation or registration 18 . .

Please state whether you want your Certificate in English or Latin.

No liability whatever is attached to signing this application form. Dentists who are in active practice will be appointed upon our Medical and Dental Staff.

We shall be pleased to enroll your name as such upon our record book. Our object is to obtain a large and increasing membership to our present Staff of Physicians and Dental Surgeons. This membership is selected from the most successful and skilled practitioners, whose various modes of treatment are attracting the personal attention of the general public.

It will bring you prominently before the general public to belong to the Staff of St. Luke's Hospital.

The list of members will be closed shortly. Please fill in this application form, returning it to us by early mail, and we shall take pleasure in placing your name in good standing upon the Medical and Dental Staff of our Hospital, entitling you to all the advantages and financial benefits of membership.

Kindly select and mark with a cross thus: X, right over the priced certificate you desire to have sent, and remit us in advance the amount, together with this application form properly filled out, and we will have your certificate safely sent you by return mail. Should you prefer it, we will send your certificate through any bank you may name, postmaster, or via American Express, C. O. D., you to send us $2.00 in advance, to apply on your account as a guarantee of good faith that you will promptly take your certificate from the bank, post or express office when it arrives. If you remit us in advance you save this extra expense and delay.

These certificates are artistically lithographed (size 19x25 inches) and set forth that the holder has been regularly appointed to the honorable ranks of a member of our Staff of Medical and Dental Surgeons. These certificates are a great attraction to any dentist's office. All the members of our Staff are delighted with them and say that they impart confidence to their visitors and patients. They are truly a beautiful illustration of the higher art of the lithographer, and any dentist ought to be proud to have one framed and hung upon the wall of his reception or operating room. It is something that increases the practice of the dentist and wins him many dollars during the course of a year. These certificates will be delivered free in tubes by mail, and furnished as follows: Heavy royal linen paper, $5.00; imitation of parchment, $7.50; genuine sheep-skin, only $10 00.

We send out all of our certificates with your name handsomely engrossed thereon in Old English or Round Hand style of letters, with two pieces of dark blue ribbon and a large corporate gold seal affixed thereto, giving it the general appearance of a regular Hospital Medical or Dental College Diploma.

N. B —The amount received from these Certificates of Membership is devoted entirely to the general expense of maintaining the Hospital for the benefit of all concerned.

Date of Certificate of Membership . . . . . .

I do not know how widely these letters of solicitation, etc., have

been sent out, but it seems best for me to give the matter somewhat in detail, so that the disgraceful scheme may be well ventilated and the readers of the DIGEST be put on their guard.

Fraternally yours,

EDGAR O. KINSMAN.

THE BOSSES BUSY DAY.

(As told by the office-boy.)

One mornin' the Boss come to the Offis real Early, an' says he, "James," (that's me), "I've got a Awful busy Day before me, an' I want you to Kind of keep people Away. Shoo 'em off, sick the Dog on 'em, unless they've got Special Business with me. I ain't got no Time for Trifles, so you Jist make Engagements without lettin' people call me Out. Do you Hear? I expect to make Eighty or Ninety Dolers before night. I've got Three Big appointments, each one wuth Money. This is Goin' to be a Gala Day with me, sure's you're Born. So you See that my Instructions is Obeyed."

"Yes sir," says I, an' I had Haf a Mind to say, Mebbe you Kin pay me them Seventeen Dolers back Wages due me, only I knowed the Boss always has such Bad Luck, an' I didn't want to appear Mean.

So about Seven o'clock he Got to Work for Mis' Bowen, an' he made things Hum, filling two big Front Teeth with Gold. About a Hour Later the Bell rung an' in come a Man what said he must See the Dentist. I ast him was it a Perfessional Matter, an' he said yes it Was, the Wuss Kind, an' right Away, too. So I told the Boss, an' he Ast me did he Look like a Agent, an' said no, I reckoned he Wanted to Pay a Bill (An' that's What I reely thought he was, too.) Then the Boss he fell over a Cheer, gittin' out to where he Was, an' before he could Speak, the Man stretched out his Hand, an' smiled like a Dimond Sunburst, the Same like as if he was a Long-Lost Brother. Says he, 'This is Dr. Wearybones, of course? Dock, I've been recommended to You by Dock Malgamate, as a Dentist What knows a Good Thing when he Sees it. I've took this Opportunity to Show you a Simple Device, just what every Progressive Dentist wants, for Keeping Children quiet, while you're workin for their Mother. You set this Box on a Table, an' then you—"

Jist then Dock interrupted him. Says he, "Jist so. Well, you take your Blamed Device round to the Livery Stable on the next street Back, an' you Ast them to let you Try it on a Fractious Colt. That's my Present Feelins on the Subject. Good Mornin', Sir."

The Boss gits Awful Funny sometimes with Agents, although 'most Any Patient with a Bluff about him Kin back him Down.

It seemed after that like as if Every Agent that ever was in Town wanted to See the Boss. I let in Four, every last one of Which looked like he Wanted to Pay a Bill, an' that of course brought the Boss out. Presently he Got Mad, an' says he, "James, I wisht you had a Bit of Gumption. The next Time you Jist Ast them if they Want to Pay a Bill. If you Call me Out again to See a Agent I'll Pull your Leg out by the Roots."

I Seen he was irritated, an' I knowed I'd got to be Careful. Presently he Come out into the Hall agin, an' he was Mutterin' an' seemed to me like he was Cussin' under his Breath. It Turned Out that while he was Seein' the last Agent, Mis' Bowen, the Lady he was Workin' for, seen it was Time for Takin' a Dose of Medicine the doctor had prescribed, an' Tried to Take it right through the Rubber Dam, an' the Rhubarb an' Stuff had Gone all over the Two Big fillings, about Three Fourths Finished. Then the Boss had Tried every Way to make the Gold stick, an' it Jist wouldn't, nothin' he could Do. He Kep' filin' it Away, an' Wipin' it off with Chloroform, an' at last he said Dam, right out loud. With that Mis' Bowen she Got Up, very slow and Dignified, an' she quietly pulled the dam Off, an' picked Away the Strings, an' says she, "Doctor Contour, I've heretofore Took you for a Gentleman, but I find I've been Mistooken. You have used language in my presence wholly Unbecoming a Gentleman, insulting indeed, an' not to be Overlooked by one that's been a Church Member this Twenty years, an' that's been a Active Member of the Womens' Christian Temperance Union since Girlhood, an' a Honorary Member of the American Board for Foreign Missions since she was three years old. I shall Seek another Dentist at Once sir, at Once." With that she put on her Bonnet an' Went Out, Payin' no Heed to the Bosses apologies.

The Boss blinked his Eyes mighty Rapid a Spell, for as he said, there was Twenty-five Dolers an' three Hours Time gone to ——

Waste, (them was his Exact Words, whatever he Thought), not to Mention a Book of Gold. I couldn't help feelin' Sorry for him, but I knowed he'd soon get Over it, for the Boss has great Elasticity of Spirits. (That's what I Heered a Phrenologist say about him when he Examined his Head once; an' it's so, Too. You can't any more Down Dock Contour an' Keep him Down, than you Kin one of them Roller Shades what they have in Electric Cars.)

So at ten o'clock in Comes another Lady an' she Sot Down to Have the Boss put on two Richmond Crowns for her. That was to be Fifty Dolers, an' the Boss was Hard at Work Directly, lookin' like nothin' had happened. He Allowed he'd do them Two Crowns before Three o'clock, havin' already treated an' got the Roots ready. While he was Workin' in come Dock Peabody, what has a Offis right across the Street. He aint got no Laboratory of his Own, so he uses the Bosses. He seen the Boss solderin' the Crowns, an' he Ast him how much he Was expectin' to Git for them, and the Boss said, "Fifty Dolers Cash. An' that's only Part of my Day's Work; I expect to make nigh a Hundred Dolers, Today." Dock Peabody Winced when he Heered that, for he's a Great big Blowhard himself, always Braggin' about how Big his income is, an' how he can't see Haf the Rich Folks that calls, an' so on. The Boss don't Brag much, an' Dock Peabody knowed he was Tellin' the Truth, when he said he'd Git Fifty Dolers. So he tried to think of something reel Mean to say, but he couldn't, so he looked in where the Lady was Settin' in the Cheer, an' says he, "If I was workin' for that Woman, I'd want to See the Color of her Money, before she Left the Offis." An' says the Boss, "Never you Mind about that; it's understood she's to Pay cash. She Knows I don't Trust no Strangers."

Well, it was just Quarter past three when Dock got Through with the Lady, an' said she, "If I pay you ten Dolers today, Dock, and the Balance Tomorrow, will that be All Right?" An' sometimes the Boss would of said Yes, this time he was Tired an' Fretful, so he says, No Mam, it will not be At All satisfactory. You Will pay me in full as at First agreed, if you Please." He looked Kind of Fierce for him, an' I sneaked close Up, an' Listened very Careful, thinkin' the Boss might Need me for a Witness. Just then there was an Alarm of Fire, an' it Wasn't only a Few Doors from our Offis, an' we all Looked Out to See. It was a Pretty

Fierce Fire, an' it created Great Excitement, so that I forgot all about the Woman in the Offis. But after Awhile the Boss seemed to Remember, an' he went Back in the Offis, and the Woman was Gone! So was the Ten Doler Bill she had Laid Down on the Table, thinkin' of course the Boss would Accept it all Right. Then the Boss flew Around qulte Desperate, an' he Seen Dock Peabody over in his House lookin' out at the Fire, an' he told him all about what had Happened, an' Ast him had he Seen the Woman Go Out. As soon as he said that Dock Peabody Bust Out laughin', an' he said he Seen the Woman sneak Out Fifteen Minutes ago, an' Wondered if something wasn't Bein' Played on the Boss.

Then the Boss Rushed in an' started to Call Up the Police Station, an' Jist then a Funny Thing happened—the Police Station called him up, jist a few Seconds first. They said, was there a Woman in the Offis dressed So an' So, an' with two Front Teeth missin', 'cause if they Was, she was a Confidence Woman, an' to Detain her on some Pretext until a Ofiser what was on her Trail could Come. That sent the Boss Ravin' Crazy, for he Recognized the description, an' he said enough Tough Things to make a Ice-Box bust out in Flames, an' Jist then the Telephone bell rung again, an' I said Hello (the Boss bein' in Delirium), an' it was Mis' Graham, the Ritch Standard Oil Maggot's wife, sayin' she was Goin' to New York that Evening, an' she'd concluded to have a Dentist There do her Work, 'cause she'd Heered he had some New Way of Filling Teeth without hurtin', so please Cancel her Appointment for three-thirty that afternoon. An' I didn't say Nothin' to the Boss about it Jist then, 'cause I'd heered him say it was a Twenty Doler Job, an' I thought it might Discourage him.

About Five O'clock the Boss got Up off the Sofa, an' he Blowed his Nose an' Looked kind of Sad at me, an' says he, "James, don't you Ever Be a dentist. If you Want to Git Along an' Make Money, you be a Undertaker, or a Milliner."

Cincinnati, O. FRANK W. SAGE.

RUSSIANS HAVE POOR TEETH.—A Russian merchant from St. Petersburg who was recently in Chicago stated that the people of his city were rapidly becoming toothless, and that the capital would undoubtedly be transferred to Moscow on that account. He attributed the trouble to the unhealthy climate of St. Petersburg, surrounded as it is by marshes, and to the scarcity of good dentists. He further stated that the science of dentistry was practically unknown in Russia, even in the larger cities.

The Dental Digest.

PUBLISHED THE FIFTEENTH DAY OF EVERY MONTH
At 2231 Prairie Avenue, Chicago,
Where All Communications Should be Addressed.

Editorial.

PROTECTIVE ASSOCIATION AFFAIRS.

We give notice in this issue of the death of Dr. Lucius T. Sheffield of New York, president of the International Tooth Crown Co. He was by birth, education and training a gentleman, and was unusually gifted in many directions. Unfortunately, however, by force of circumstances he was led to take up this nefarious warfare which has been waged by the Crown Co. against the dentists of this country for the past fourteen years, and in consequence his talent and energy were turned against his profession instead of to its benefit.

It is hard to say at this time just what effect his death will have on the litigation. As our readers are undoubtedly aware, the Crown Co. brought suits against many prominent men in the east some time ago, and these cases would have been tried last spring, but the court docket was so crowded that they were not reached. Consequently, an agreement was entered into by the lawyers on both sides that one of the cases should be tried by jury at the first session of court this fall. The case is set for the latter part of this month and will undoubtedly be tried. The Protective Association is fully prepared, and we presume the Crown Co. will continue the litigation, even though its president is dead, as it is a stock company. As stated in previous issues of the DIGEST, we have no fear of the ultimate outcome, nor of the Association's ability to defend any members who have already been sued or who may be in the future.

PRESENT STATUS OF WARFARE ON IRREGULARITIES IN ILLINOIS.

In the last issue of the DIGEST we gave in detail the result of the Protective Association's investigations into the questionable and corrupt methods of the Illinois State Board of Dental Examiners,

which left the former secretary of the board, Dr. J. H. Smyser, bound over to the grand jury by Judge Kavanaugh on two charges, one of altering the official records of the board and the other of receiving a bribe. His and other cases should have come before the September grand jury, but the jurors were in session only eighteen days, during which time they considered over six hundred cases. As all these antedated and took precedence of ours, there was not sufficient time left during the session for a proper and thorough presentation of dental matters such as is demanded by both the public and the profession. Furthermore, we have not completed our investigations, so it was deemed best by both our own and the state's attorney to let the matter go over to the October grand jury.

Meanwhile we have not been idle, but have been accumulating evidence of additional acts of dishonesty and corruption. It would not be wise at this time to give the details of what has been discovered, but we would briefly show the profession wherein assistance is needed. Most of the information furnished is not evidence, but hearsay and private opinion, and they carry no weight in court. If any of our readers know of instances of irregularity on the part of past state boards or disreputable colleges, we should like the particulars. If any dentist knows of cases where students have been swindled by dishonest members of the board or their agents, we should like to be put in communication with the unfortunates. If any student has matriculated in any dental college and has not received what was promised him, we should like his name and address.

DIPLOMA TRAFFIC IN MICHIGAN AND NEW JERSEY.

We publish in this issue a communication from Dr. Edgar O. Kinsman, concerning St. Luke's Hospital, at Niles, Mich., an institution which is engaged, among other things, in the questionable practice of selling certificates, membership tickets, membership buttons, etc. As will be seen on the application blank, "The hospital is for the use of the surgical, medical and dental profession." We have known instances where hospitals were accused of being run for commercial purposes and for the aggrandizement of the staff, but we have never seen a case before where the hospital unblushingly advertised such fact. We do not know how legiti-

mate an institution St. Luke's Hospital of Niles, Mich., is as regards its departments for and treatment of patients, but any supposedly professional institution which would foster a traffic in certificates, intended only to impress and deceive the callers and patients of the holder, could well be regarded with suspicion throughout.

The worst feature of it all is, that the law probably cannot touch the individuals running this scheme, as they are not selling licenses to practice, but merely documents and devices "which if displayed judiciously will pay for themselves many times over during the course of a year." We should advise Dr. Kinsman to enjoin this hospital to prevent the further use of his name, and a damage suit would not be at all out of place. If other names have been used without the consent of the owners, we should urge every man placed in such a false position before his profession to send out a disclaimer, to get an injunction against the hospital, and to sue for damages. If many names have been used without authority we should think the hospital could be properly charged with running a fraudulent traffic.

The most deplorable feature of this matter is the fact that any professional man would stoop so low as to purchase and use these unearned and unhonored parchments, with the sole idea of impressing and deceiving his patients. However, any individual who would buy evidences of learning or proficiency which he did not possess, could not be recalled to a sense of his duty or be influenced in any way by appeal or condemnation in these pages, so we shall not waste our time in uttering same. We hope the day will come when men with such low ideals will not be admitted to an honorable profession.

According to newspaper reports, the business carried on at 68 Montgomery St., Jersey City, N. J., is receiving the attention of the governor of the state and the state board of health, and the postal authorities may look into it. J. W. Norton-Smith, "M.A., Ph.D., S.D., LL.D., President of the Central University of Medicine and Science," has been sending out letters and offering to sell all sorts of degrees and diplomas for a nominal sum. The "University" declares itself to be incorporated under the New Jersey law entitled "An Act to Incorporate Associations Not for Pecuniary Benefit," but Gov. Vorhees states that the title-making univer-

sity can find no legal warrant for its existence under the provisions of this act. We sincerely hope that the proper authorities will take the matter in hand and put a stop to the selling of bogus diplomas as it appears to be carried on in Jersey City. When the prosecution is vigorously pushed the guilty parties can usually be punished, as they were in Illinois not long ago, but before this traffic which is degrading the dental and medical professions in the eyes of the community at home and abroad can be stopped two things are necessary—first, laws which will make it impossible for such fake colleges and fraudulent schemes to exist; and second, a class of men in the profession who will not be tempted by "degrees cheap for cash." The thought and efforts of all those who have the welfare of their profession at heart should be directed to bringing about these desirable conditions.

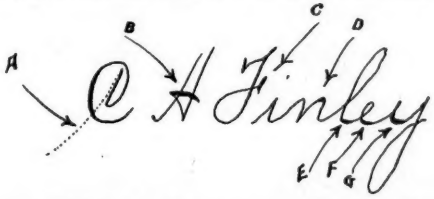
WHO WROTE "C. A. FINLEY"?

In the September DIGEST we promised to tell our readers this month how the handwriting expert detected the falsification of the records of the Illinois State Board of Dental Examiners, and how he proved to his own satisfaction and to that of the court that Dr. J. H. Smyser had made the changes. Mr. W. A. Drake of Chicago, who was called as expert in the case, has kindly allowed us to make cuts from his records, which same we publish herewith, together with his explanations.

Before going into the matter in detail it will perhaps be well to review the Finley case as related in our last issue. C. A. Finley, together with fifty-seven others, took an examination before the board March 21, 1896, and of the fifty-eight applicants only eleven passed, Finley not being among them, in fact, his name was nineteenth on the list of those who failed. On May 17, 1898, Finley presented an affidavit to Dr. Smyser, stating that he had practiced dentistry for ten years, and making other claims which were not borne out on cross-examination before Judge Kavanaugh recently. Although he had had no examination by the state board, except the one in 1896 when he failed, and although he had no diploma, Dr. Smyser issued a license to him on May 20, 1898. At the time when Finley was examined and failed in 1896 Dr. L. L. Davis was secretary of the board and the minutes of the meeting were copied into the record book by him. When we took up this investigation, an

examination of the official record showed that the name "C. A. Finley" therein had been changed to "C. A. Teteley," that the name "C. A. Finley" had been written at the top of the list of successful candidates, that No. "11" in the caption of the board's proceedings, showing how many had passed a successful examination, had been changed to "12," making it appear that twelve men had passed instead of eleven; and finally, it was seen that numbers running from 1 to 12 had been placed beside the names of successful candidates, and that figure 1 had been written opposite Finley's name, to show further that he was at the head of the list.

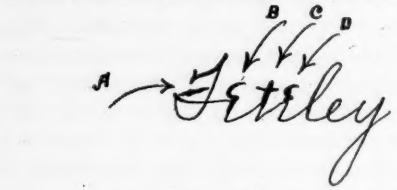
The handwriting experts for both sides gave testimony before Judge Kavanaugh last month that in their opinion the name "C. A. Finley," as it appeared in the minutes written by Dr. Davis as the nineteenth unsuccessful candidate, had been changed to "C. A. Teteley" by Dr. Smyser; that the name "C. A. Finley" as written at the head of the list of successful candidates was in Dr. Smyser's handwriting; that the change of No. "11" to "12" was made by him, and that the numbering of the successful candidates was his work. In court Dr. Smyser denied all the charges, but upon cross-examination finally admitted that he had written the name "C. A. Finley" at the top of the list of those who had passed the examination.



In the first cut which we give A shows the introductory upward stroke which Dr. Smyser invariably employs in making a capital C. Dr. Davis never uses this stroke. C shows the oblique short stroke invariably used by Dr. Smyser in finishing a capital F. Dr. Davis never uses this characteristic finish of "F", but merely a horizontal stroke thrown across the capital stem. B, D, E, F, G show the shaded lateral strokes peculiar to Dr. Smyser. This shading indicates a position of the pen-holder thrown well out toward the right, and could not arise from the position in which Dr. Davis naturally holds his pen.

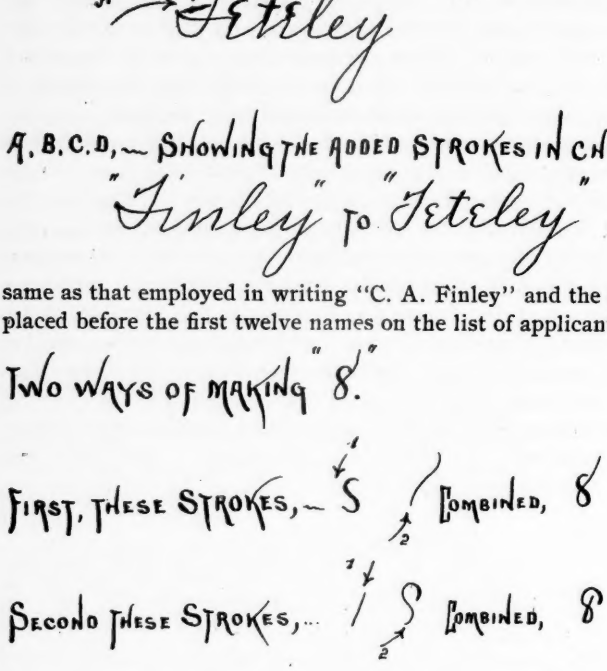
In the second cut A, B, C, D show the strokes added in changing

"Finley" to Teteley." The ink used in effecting this change is greatly different from that used in the record generally and is the



A. B. C. D. — Showing the added strokes in changing "Finley" to "Teteley"

same as that employed in writing "C. A. Finley" and the numerals placed before the first twelve names on the list of applicants.


Two ways of making "8."
First, these strokes, —
Combined, 8
Second these strokes, ...
Combined, 8
Dr. Smyser makes both kinds, "8" & "8";
But about 6 of this kind "8" to 1 of this "8."
Dr. Davis invariably forms his 8 like this, "8."

The third cut explains itself. Other illustrations might be given and were shown in court, but these few will give our readers an idea of how handwriting experts work and upon what basis their deductions are made. It is a fundamental principle in the comparison of handwriting that no person has the mental self-control and manual dexterity which will enable him to put aside and hold in abeyance the characteristics of his natural hand, and at the same time assume the chirographic personality of another and maintain it throughout any considerable body of writing, in fact, not even throughout a name of ordinary length. The writer's personal characteristics, especially those we call unconscious characteristics, display themselves without his conscious volition. Mr. Drake states that Dr. Smyser's handwriting is "very erratic and vacillating; without sustained attention to a certain ideal—in fact, a most variable style." In spite of this, and notwithstanding the fact that Dr. Smyser undertook to renounce his normal styles of writing and to assume certain features belonging to another, namely, Dr. L. L. Davis, his falsification of the records was easily detected and proved. To again quote from Mr. Drake, "If those about to commit forgery knew how certain they were to be found out upon examination of the forged document, they would never run the risk incident upon such act."

Notices.

PENNSYLVANIA STATE DENTAL SOCIETY.

At the annual meeting of this society, July 10-12, 1901, the following officers were elected for the ensuing year: Pres., M. H. Cryer; 1st V. P., R. H. Nones; 2d V.-P., J. E. Libbey; Rec. Sec., C. V. Kratzer; Cor. Sec., V. S. Jones; Treas , R. H. D. Swing; Ex. Com., R. H. Nones, Grant Mitchell, H. M. Beck.

V. S. JONES, Cor. Sec.

DENTAL COMMISSIONERS OF CONNECTICUT.

On July 1, 1901, Gov. McLean appointed an entirely new dental commission, to serve two years, as follows: Wm. H. Loomis, Wm. E. Hyde, J. Tenney Barker, Horace Bascom and E. W. Pratt. On July 12 the commissioners met at Hartford and elected E. W. Pratt president, and J. Tenney Barker, recorder. They also voted not to grant temporary permits to practice dentistry pending examinations.

The commissioners will meet at the Capitol in Hartford, Nov. 12-14, 1901, to examine candidates for license and to attend to any business proper to come before them. The written theoretic examination will be held Nov. 12

and 13, and the practical examination in operative and prosthetic dentistry at 9 a. m., Nov. 14. All persons desiring to practice dentistry in this state must apply to the recorder for revised rules and for the proper blanks. Blanks must be carefully filled in and sworn to, and with the fee, $25, filed with the recorder at least one week before the examinations begin.

J. TENNEY BARKER, Recorder, Wallingford, Conn.

NORTHERN INDIANA AND SOUTHWESTERN MICHIGAN SOCIETIES.

At the annual joint meeting of the Northern Indiana and Southwestern Michigan Dental Societies, held at Goshen, Ind., Sept. 25-26, 1901, the Michigan branch elected the following officers: Pres., N. E. Hooper, Decatur; V.-P., E. A. Honey, Kalamazoo; Treas., C. E. Burchfield, St. Joseph; Sec'y, C. W. Johnson, Grand Rapids. The next place of holding the meeting has not yet been decided upon.

NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

Will the secretaries of the state boards of dental examiners in the different states please send lists of the names of examiners and officers of each board to the secretary of the National Association of Dental Examiners? This is a most important matter, as I am constantly receiving letters from all over the country, inquiring about the officers of the different boards.

J. ALLEN OSMUN, Sec'y.

MASSACHUSETTS BOARD OF REGISTRATION.

A meeting of this board, for the examination of candidates, will be held in Boston Nov. 13-15, 1901. Candidates who have applied for examination will report to the Secretary Nov. 13, at 9:30 a. m,, at Tufts College Dental Infirmary, corner Huntington and Rogers Avenues, and come prepared with rubber-dam, gold and instruments, to demonstrate their skill in operative dentistry. Any one who wishes may bring his patient; so far as possible patients will be furnished. The board in every instance selects the cavity to be filled. Partially prepared cavities never accepted.

The theoretic examination—written—will include operative and prosthetic dentistry, crown and bridgework, orthodontia, anatomy, histology, surgery, pathology, materia medica, therapeutics, physiology, bacteriology, anesthesia, chemistry and metallurgy, and will be held at Civil Service Rooms, State House, from Nov. 14, at 9:30 a. m., until Nov. 15.

All applications, together with the fee of twenty dollars, must be filed with the secretary of the board on or before Nov. 6, as no application for this meeting will be received after that date. Every candidate for examination must be twenty-one years of age. Application blanks may be obtained from the Secretary.

Candidates who have taken an examination and failed, and desire to come before the board again at this meeting are not required to fill out a second application blank, but must notify the secretary as above in order to be examined. The fee for third and subsequent examinations is $5.00.

G. E. MITCHELL, D.D.S., Sec'y, 25 Merrimack St., Haverhill.

LATEST DENTAL PATENTS.

11,931. Dental chair, F. Ritter, Rochester, N. Y. (reissue.)
677,947. Dental floss holder, J. W. Cowan, Geneseo, N. Y.
678,975. Dental apparatus, J. M. Gilbert, Dallas, Tex.
678,101. Package dental floss, J. W. Cowan, Geneseo, N. Y.
678,182. Dental clamp, J. W. Ivory, Philadelphia.
678,374. Orthodontia wrench, G. E. Brown, Chicago.
678,417. Jaw splint, W. G. E. Miller, Paterson, N. J.
679,198. Hypodermic syringe, C. Witkowski, Boston.
679,423. Head-rest, C. E. House, Canton, O.
679,647. Artificial tooth, J. S. Thompson, Liverpool, Eng.
679,714. Cap for fixing crowns to teeth, J. L. Williams, London, Eng.
680,119. Dental forceps, F. A. Brewer, Watsonville, Cal.
680,389. Device for modelling tooth-roots, P. B. McCullough, Philadelphia.
681,224. Dental forceps, A. H. Jacob, Larned, Kans.
681,535. Dental impression cup, J. W. Fowlring, Albia, Ia.
681,690. Blowpipe, C. E. Esterly, Lawrence, Kans.
681,770. Teeth separator, W. J. Worsley, Tinley Park, Ill.
682,098. Dental appliance, W. T. Lyon, Oregon City, Ore.
682,317. Dental engine, M. N. Callender, San Francisco.
682,597. Dental forceps, G. L. Bennett, Chicago.
682,668. Dental articulator, W. M. Bruce, Toronto, Can.
682,756. Artificial denture, J. C. Schroeder, G. P. Spangler, York, Pa.
682,836. Tooth-brush, L. H. Arnold, Chicago.
682,892. Toothpick, Emma J. Thurston, Deming, Wash.
683,075. Teeth-cleaning appliance, A Schneider, Berlin, Germany.
683,198. Means for fastening artificial teeth, J. G. Burchell, Atlantic City, N. J.
683,500. Tooth-powder distributer, J. S. Sanger, Orange, N. J.
683,640. Dental articulator, H. D. Cross, Philadelphia.
683,696. Dental drill, L. Maillard, Galt, Can.

News Summary.

D. S. WRIGHT, 64 years old, a dentist at Macon, Ga., died Sept. 18, 1901.

JEALOUS.—It annoys a veterinary surgeon to hear a dentist called "Doctor."

E. H. DILLON, a dentist at Elmwood, Ill., died Oct. 1, 1901, of pneumonia.

J. P. BARNES, 75 years old, formerly a dentist at Allentown, Pa., died Sept. 8, 1901.

D. S. KELLOGG, 80 years old, for many years a practicing dentist at Ft. Plain, N. Y., died Sept. 4, 1901.

WM. A. PRATT, 58 years old, for many years a practising dentist in Chicago, died of paralysis at Elgin, Ill., Sept. 16, 1901.

BANKRUPTS.—Herbert M. Dennett, Boston, Mass., owes $3,958.75. H. H. Emley, Allentown, N. J.; liabilities, $7,125; assets, $250.

CONGRATULATIONS, JOHN.—"Dr. John J. Murphy, who has been closed during alterations, has reopened his dental parlors."—*Haverhill (Mass.) Gazzette.*

L. T. SHEFFIELD, 47 years old, a dentist in New York City, and president of the International Tooth Crown Co., died Sept. 20, 1901, from heart trouble.

CAUSE FOR ANXIETY.—"Then you are becoming anxious about that new patient of yours, Doctor?" "Yes, indeed. I have learned that he never pays anybody."

MURDER COMMITTED BY DENTIST.—According to newspaper report, P. F. Boyd, a dentist at Houston, Tex., shot and killed a prominent lawyer of that city recently.

LIMA (O.) DENTAL SOCIETY elected the following officers at its meeting Sept. 9, 1901: Pres., A. Jones; V.-P., R. W. Stephens; Secy., Dr. Gray; Treas, G. H. Irwin.

ROBBERY.—"For twenty years that prosperous looking man over there has taken his living out of the very mouths of other people." "How's that?" "He's a dentist."

PENNSYLVANIA DENTAL EXAMINERS elected the following officers Oct. 1: Pres., J. A. Libbey; Secy., G. W. Klump; H. E. Roberts, H. DePuy, J. T. Lippincott, H. N. Young.

READY TO GO.—A country paper says in an old obituary: "Mr. Sullivan was a good citizen. He lived uprightly and died with perfect resignation. He had been recently married."

VALUABLE STUFF.—A Wisconsin editor has a subscriber who pays up whenever he gets full. His subscription is now paid to 1941. We shall look up the brand and offer it as a premium.

FAMILY AFFAIRS —Teacher: "What do you know of the microbe family?" Little Maudie; "Please, ma'am, Mama has forbidden us to gossip about other people's family affairs."—*Tid Bits.*

S. W. THAYER, 42 years old, a dentist at Brighton, Mass., died Aug. 29, 1901, of Bright's disease. In accordance with his request his remains were cremated and scattered on the ocean.

RUSSIA HONORS AMERICAN DENTIST.—Dr. Oscar Gerber, formerly a dentist at Orange, N. J., has been appointed instructor of prosthetic dentistry in the dental clinic at St. Petersburg, Russia.

PEORIA (ILL.) DENTAL SOCIETY was organized Sept. 28, 1901, and the following officers were elected: Pres., W. A. Johnston; V. P., C. E. Collamer; Secy., Dr. Collins; Treas., Wm. Σ. Whalen.

FIRST DISTRICT DENTAL SOCIETY (Illinois) elected the following officers at its meeting Oct. 2, at Monmouth: Pres., W. E. Mabee; V.-P., R. W. Hood; Secy., C. B. Warner; Treas., H. W. McMillan.

BANQUET TO DR. MILLER.—Dr. W. D. Miller, the noted dentist and investigator of Berlin, Germany, was given a banquet by a number of Chicago dentists during his visit to this city the last week in September.

NERVE.—"Well!" said the dentist after he had finished the job "I must say you have a wonderful amount of nerve." "You ought to know, confound you," replied the patient "for you certainly found all of it."—*Denver Post.*

NORTHERN IOWA DENTAL ASSOCIATION elected the following officers at its meeting in September: Pres., J. A. Walter; V.-P., Wm. Finn; Secy., W. G. Crandall; Treas., H. W. Riser. The next meeting will be held at Cedar Rapids.

SOUTHERN KANSAS DENTAL ASSOCIATION, at its annual meeting, Oct. 1–3, 1901, elected the following officers: Pres., G. F. Ambrose; 1st V.-P., J. F. Burkett; 2d V.-P., C. E. Johnson; Sec'y, F. S. Lawrence; Treas., O. H. Simpson.

MARRIED.—C. H. Doss, Ipava, Ill., Sept. 25; R. H. English, Oconto, Wis., Sept. 10; W. G. Emery, Fostoria, O., Sept. 23; A. G. Thatcher, Fremont, O., Sept. 10: O. B. Whitford, Plainfield, N. J., Sept. 14; S. T. B. Webber, Salt Lake City, Sept. 25.

CALIFORNIA DENTAL EXAMINERS.—The new state board of dental examiners of California met Sept. 3 for their first session, and elected the following officers: Pres. H. R. Harbison; Secy., F G. Baird; Treasurer, F. J. Bethel; F. R. Cunningham, R. H. Cool, J. M. Dunn, G E. Schilling.

MURPHY BUTTON EXPLAINED.—"A tube was inserted in Mr. ————'s abdomen leading into the intestines. This tube is closed with a Murphy button, so-called from having been invented to suit the case of Col. Michael C. Murphy, the police commissioner."—*N. Y. Tribune, March 8, 1901.*

HAIR COMBINGS EXAMINED.—A hairdresser in Chicago asks people to send her the combings of their hair, when she will make a microscopical examination of same and report on its condition. The next thing will be for dentists to examine toothbrushes and decide what the owner's teeth need.

HENRY S. NASH, 69 years old, a dentist at New York City, died Sept. 12, 1901, of acute mania and complications. His health was fairly good until last June, when stomach trouble set in, followed by an affection of the brain. Dr. Nash was an authority on pyorrhea alveolaris and had written a book on the subject.

ANECDOTE.—"What is an anecdote, Johnny?" asked his teacher. "A short, funny tale," answered the little fellow. "That's right," said the teacher, "Now, Johnny, you may write a sentence on the blackboard containing the word." Johnny hesitated a moment, and then wrote this: "A rabbit has four legs and one anecdote."—*Ex.*

"TEETH, THEIR AILMENTS AND TREATMENT," by C. F. W. Bodecker, D.D.S., M.D.S., Berlin, Germany. This brochure is in the German language, and is intended for distribution among the laity. The author puts great stress upon prophylaxis, particularly the proper use of the tooth-brush. We can

readily see how such a pamphlet would do much good, and we commend his example to others.

HAT HELD FOR PAYMENT.—A dentist in Chicago recently treated a caller's tooth, and upon his trying to leave without paying for the work, the dentist seized his hat. The patient took the matter into court, but the case was immediately thrown out. Dentists who have any slippery customers may profit by the example herein set forth.

COLLEGE LOSES DEAN.—Dr. Geo. W. Miller has resigned his position as dean of the Des Moines College of Dental Surgery, and it has been accepted, although his successor has not as yet been elected. Dr. Miller's action was due simply to the fact that he could not do justice to both his practice and the college, so he resigned from the latter.

SOLITUDE.—What lover of the open has not shared this experience?

"Ther's times when I'm unsoshle ez a stone,
An' sort o' suffercate to be alone—
I'm crowded jes' to think thet folks are nigh,
An' can't bear nothin' closer than the sky."

ROBBERY OF DENTISTS.—On several occasions during the past year we have reported the fact that dentists were being made the special prey of sneak-thieves. Since last writing three dentists in Toledo, O, one at Buffalo, one at Elyria, O., and three at Fond du Lac, Wis, have been visited, and gold and material in amounts ranging from five to fifty dollars have been secured in each case.

SMOKE CAUSES DAMAGE SUIT.—A dentist in the Masonic Temple, Chicago, has sued a large wholesale grocery house to recover $10,000 damages. He complains that the smoke from the grocery warehouse, which is situated directly back of the Masonic Temple, fills his office and injures his business. We hope he wins the suit, as the individuals who are making Chicago the dirtiest city in the world should be punished.

DIGEST AIDS RECOVERY.—Dr. E. P. Beadles of Danville, Va., writes under date of Oct. 4 as follows: "I am just recovering from an operation for apendicitis, and have plenty of time to enjoy the DIGEST and other good reading matter. I consider the last issue especially entertaining, and send best wishes for its continued success." We are sure that all readers of the DIGEST will join with us in wishing the doctor a speedy return to health and strength.

GEORGE H. CUSHING LIBRARY.—Dr. Garrett Newkirk, Los Angeles, Cal., writes that Dr. Cushing, a short time before his death, donated his books to the College of Dentistry of the University of Southern California, to form the nucleus of a library. It has been decided to make this library a memorial to his name. Dr. Newkirk thinks that many of Dr. Cushing's friends will be glad to give books and files of journals for this purpose, and he solicits correspondence on the subject.

ILLEGAL PRACTITIONERS.—A man at Jackson, Mich., was fined $25 recently for practicing dentistry without a license; another one at BattleCreek, Mich.,

paid $29.20 for the same offense; another is doing time in Indiana; a woman in Indianapolis, who was fined $100 last winter for the same offense, is now before the grand jury for practicing without a license. Finally, the man at West Duluth, Minn., who was bound over last month to the grand jury for having no license, has been convicted by that body.

FATALITIES.—A woman in Ohio recently died during the administration of vitalized air given preliminary to tooth extraction. A young married woman recently went to a dental parlor, and the dentist's assistant made three injections of cocaine before extracting some teeth. Soon after convulsions set in and death followed within an hour. A woman in Denver is dying from blood-poisoning, and it is claimed that when she had some teeth extracted a short time ago the dentist did not sterilize his instruments and thus infected her.

PARENTAL INFLUENCE.—"Have you suffered much from toothache?" asked the dentist. "A little," answered the young woman in the chair, but not much. My teeth, I suspect, are like Mama's. She has never had anything done to her's, and she hasn't an unsound tooth in her head." "How are your father's teeth?" "Poor papa. His are all gone. They never were anything but mere shells." "Well," said the dentist, breaking it to her as gently as he could, "it's very evident that you inherit your upper jaw from your mother and your lower jaw from your father."

DAMAGE SUITS.—A dentist in Philadelphia has been sued for $20,000 for alienating the affections of the wife of one of his patients. A woman at Seattle, Wash., has sued dental parlors in that city for $5,000 damages, claiming that while fixing her teeth one of the operators spilled carbolic acid on her face and in her eyes, permanently injuring her sight. A firm of dentists at Horse Cave, Ky., have been sued for $5,000 for malpractice by one of their patients. As stated at the time in the DIGEST a dentist at Poughkeepsie, N. Y., was recently sued for $5,000 by a man who claimed the dentist had broken his jaw while extracting a tooth. The plaintiff has since withdrawn the suit.

GASTROTOMY FOR IMPACTED ARTIFICIAL TEETH.—Quadflieg in the *Muench. Med. Woch.* reports an interesting case. A woman of forty-four swallowed her plate containing two artificial teeth. She felt severe pain in the thorax, but daily explorations with the esophageal sound failed to reveal any obstruction. An examination with the Roentgen rays apparently showed a mass in the small intestines. As the condition of the patient became alarming, an exploratory incision was made, followed by gastrotomy and removal of plate from the esophagus through the cardia. There was considerable bleeding, and a gastric fistula was left which was subsequently cured by another operation.

LOW TEMPERATURES AND VITALITY.—Prof. Dewar said that he had tried whether the tubercle bacillus was killed by cold or not. The bacillus was cooled for two or three days in liquid air, and then tested to see whether it had survived that treatment, with the result that it appeared, so far as con-

clusions were warranted by the experiment, to be as active as before. But for some reason or other the doctors were not quite satisfied, and accordingly a further series of experiments was undertaken. The bacillus was cooled for forty-two days in direct contact with liquid air, and then inoculations were made in animals to determine whether its virulence was diminished. The conclusion reached was that it was not only still alive, but as virulent as ever.

SPASMODIC AFFECTION SIMULATING ORGANIC DISEASE.—Dr. Dundas Grant. An elderly medical man, complaining of pain and difficulty in swallowing, came to me in great anxiety, thinking he was the subject of cancer of the esophagus. Having been formerly inoculated with syphilis, he had been treated by another surgeon for that disease, and the absence of benefit confirmed him in his opinion that his obstruction was malignant. Observing, however, that he was almost edentulous, and knowing that the swallowing of imperfectly masticated food may occasion the most extreme spasm of the larynx and esophagus, I urged him to apply to the dentist for artificial teeth. In a fortnight he returned smiling with a complete set of masticators, and assured me that every troublesome symptom had disappeared.

RESECTION OF GASSERIAN GANGLION FOR FACIAL NEURALGIA.—M. G. Marchant reports a case operated on by M. Bougle, which had not yielded to numerous methods of treatment, not to mention the extraction of several teeth. The operation was performed by the temporosphenoidal route. It was easily accomplished and almost the entire ganglion was removed. The recovery was satisfactory, the only drawback being the development of an ulcer of the cornea with hypopyon. Vision was interfered with for some days, but little by little it returned, and at the end of some months the cure was complete. The writer has seen such happy results from the surgical treatment of cases of this kind that he wonders if it would not be well to adopt this line of treatment in the future instead of attempting every other known means first —*Le Bulletin Med.*

INCANDESCENT LAMPS DANGEROUS.—Dr. R. M. Scandland of Peoria, Ill., recently was the victim of a singular accident. He unintentionally struck the small globe of an incandescent lamp, and it exploded and scattered fragments of glass in his face, a number of pieces penetrating both eyeballs. Fortunately, his sight will not be impaired, but he had a narrow escape. A man was recently electrocuted in Providence, R. I., by touching an incandescent lamp which seemed to be out of order. Experts testified that in small towns where the current was sent through a small wire the house-converter might become deranged, when the wires would receive the entire 2,000-volt current, instead of the 104 volts intended for the house. This is said not to be possible in the larger cities, where a current of low voltage is distributed by means of copper cables, and a converter is not necessary.

CLEFT PALATE.—A modified operation especially adapted to young children includes a curved incision on each side close to the alveolar margin of the palate commencing posteriorly inside the last molar tooth and curving round anteriorly to terminate in the cleft, and arranged at the same time

in such a way that sufficient tissue is left immediately behind the incisor teeth to hold a suture subsequently. With this incision the posterior palatine artery is retained in the flap. The latter is reflected by means of a rugine. The connections between the hard and soft palates are then severed by turning back the flaps which have been already detached from the hard palate. Silkworm gut sutures are used, the first being placed posteriorly. At the anterior extremity of the cleft the suture should be passed through the flap from its mucous to its periosteal aspect; the free end of the suture is then carried through the gum behind the incisor teeth in the reversed direction, viz., from its deep to its superficial aspect. This suture anchors the flaps in front during the process of healing.—E. H. Taylor, *Dublin Jour. Med. Sc.*

"LITANIA NIGELLI."—From "The Day Book of John Stuart Blockie," are taken the following clauses in his litany: From beggars for my clients, from fools for my worshipers, and from sluts for my servants, Good Lord, deliver me.

From the impertinence of youthful critics, from the vanity of small poets, and from the unreasonable giggle of silly young ladies. Good Lord, deliver me.

From the barren subtlety of lawyers, from the slippery shiftiness of politicians, and from the blind restlessness or calculated selfishness of commercial speculators, Good Lord, deliver me.

From a man that simpers sweetly, from a woman that laughs loudly, and from a young woman ambitious to play the young man, Good Lord, deliver me.

From a scholar who smells of books, from a sportsman who smells of horses, and a mother who smells of babies, Good Lord, deliver me.

From genius without sense, from talent without love, and from creeds without humanity, Good Lord, deliver me.

From a spinner of fine phrases, a spinner of senseless rhymes, and a woman who paints, Good Lord, deliver me.

From the three infallibles, the Roman Pope, the editor of a party newspaper, and a woman when she is in the wrong, Good Lord, deliver me.

ACROMEGALY PRESENTING FEATURES OF UNUSUAL INTEREST.—Dr. Charles Lyman Greene presented the case of a man twenty-five years old who for some years prior to the development of this disease had spent the winter on the ice. Exposure to cold and dampness had been mentioned by writers as a predisposing or exciting cause. Five years ago a rapid enlargement of the hands and feet occurred with change in the physiognomy. The enlargement of the hands and feet steadily progressed. Three years ago swelling of the knee-joint, lassitude, and general weakness appeared. The patient complained of languor and weakness, but had had none of the severer pains in the lumbar region or limbs. There was no disturbance of the special senses or of the nervous system. Enlargement of the upper jaw had accompanied that of the lower jaw, depriving the case of one of the so-called typical signs of the disease. The tongue was large, and the larynx and its cartilages also appeared to be the seat of hypertrophy. The radiograph demon-

strated the remarkable enlargement both in length and thickness of the bones. A feature of especial importance was the marked increase in the bulk of the overlying tissues, which presented the appearance and sensation of hard edema exactly resembling myxedema. The treatment had been solely by thyroid extract, the result being an immediate and marked amelioration of the disease.—*Med. Record.*

BUT HE CAN'T ADVERTISE.

A physician sits in his office chair,
And there broods on his face a look of care,
While he groans and wails, and tears at his hair.

"Alas! and alas! and alack!" he cries;
"Surely fame and fortune would both arise
If Old Ethics would let me advertise."

At last a bright thought comes into his brain,
Says he, "I must try that old racket, 'tis plain,
It worked O. K. once, and I'll work it again."

He wrote half a page on the "Evils of Pork,"
And the case of a man who swallowed a cork,
And a spoon and a knife, but got stuck on a fork.

Told how he cured an imprudent fellow
Who swallowed entire a gingham umbrella,
And brought it intact from the patient's patella.

The newspapers all extended their thanks;
He opened accounts at the various banks;
He'd baited with ethics and caught all the cranks.

—*Chemist and Druggist.*

NEURALGIA.—Hughes objects to the surgical treatment of trifacial neuralgia, which he thinks can be generally managed by medical means. His chief reliance has been belladonna or its active principle (atropin), aconite, strychnia, large doses of quinin with gelsemium, hypophosphites of iron, with locally, ether, menthol, heat and electricity. He also uses arsenic in minimum doses and some coal-tar anodynes. In some cases he has found it necessary to employ large doses of muriate of ammonium after Anstie's method, 30 gr. three times a day. He has done this often in combination with bromid of ammonium, and found other bromids often useful as alternatives. His special objection is to Gasserian ganglion excision, which he thinks is unnecessary and inapplicable because trifacial neuralgia is not exclusively a disease of this ganglion or of the fifth nerve, and the danger of operation with its uncomfortable side-effects are such as should generally prohibit it. If he were to suggest a neuro-surgical plan of treatment when medical treatment failed, he would prepare the patient for radical relief by securing hopeful consent to combined surgical and neuro-logical treatment, put to bed, give chloroform, extirpate the involved peripheral nerves if desirable, keep both eyes closed as long as one would keep them closed after

Gasserian gangliectomy, keep visitors away, and use proper medication for six to ten weeks. The patient should be treated internally and constitutionally as well as locally.—*Jour. A. M. A.*

SUDDEN DEATH BY INHIBITION.—Inhibition—that is, the arrest of circulation and respiration consecutive to a powerful nervous impression—is an accident which, though rare, is so appalling that it is important to have attention directed to the possibility of its occurrence. Poirault (*Jour. des Prat.*) finds that the principal causes of this form of sudden death are contusions of the genital organs, of the larynx, and of the abdomen. In women manipulations of the uterus with the idea of producing abortion, intrauterine injections, vaginal injections, or even vaginal palpation, have each in turn caused sudden death. At times even a slight traumatism of the anterior cervical region has produced instant death. The fatal effect of blows upon the epigastrium is well known. Hospital records show that during operations upon the soft palate, the pharynx, the nasal fossæ, and in the course of the dilatation of the sphincter or puncture of a cyst, the patient may suddenly perish without obvious cause. This same effect may follow a sudden immersion in cold water, and ingestion of cold drinks. Young children suddenly die during their sleep. In people with extremely sensitive nervous symptoms a very simple emotion may result fatally.

FIRST ETHER ANESTHESIA.—P. Sudeck (*Deutsche Med. Woch.*) advocates the performance of minor operations, and even of those more serious in nature but which can be quickly completed, in the very first stage of anesthesia produced by the inhalation of ether. This is not the usual so-called primary anesthesia, but commences with the first deep inhalations of the vapor and lasts until consciousness begins to be impaired. It is of the greatest importance that the patient be fully impressed with the necessity of taking deep inspirations from the beginning, regardless of the pungent odor of the anesthetic, and that he keep his mind occupied only with the details of the anesthesia. For this reason it is advisable to keep him in ignorance of the fact that the operator is to begin work almost with the first inhalation, and all the instruments, etc., should be kept covered over until the last moment. The rationale of the method rests on two factors: first, the temporary overpowering of the pain-perceptive centers of the brain by the anesthetic, and second, the intense mental concentration required on the part of the patient to keep up the respirations in spite of the disagreeable stimuli produced by the ether vapor. Even operations of considerable magnitude can be painlessly performed in this way, such as amputations of thigh or arm, laparotomy and drainage of the abdomen for peritonitis, extirpation of diseased glands, etc., though it is especially adapted for less extensive procedures. The advantages of the method are its absolute safety, its lack of risk of secondary damage to the respiratory apparatus—since the quantity of vapor inhaled is so small—and the speedy recovery from narcosis, without any of the usual unpleasant after-effects. The essentials for success are the securing of the patient's undivided attention to the business of anesthetization, and rapid, sure operating.—*Med. Rec.*

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